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ABSTRACT

The Peace Corps has probably had the most comprehensive system ever developed for large-scale selection of personnel; by 1973, nearly 400,000 persons had applied for appearance. During much of its history, a Division of Research has been operative; the monograph surveys most of the publications of that division as well as a number of other studies performed independently of the Peace Corps. The purposes of this review are to: (1) describe the personnel selection procedure; (2) report and evaluate research on personnel assessment, selection, training, and overseas performance, (3) suggest ways of utilizing research findings; and (4) suggest specific research needs. The book disseminates information not generally available, includes a good deal of general background material about the Peace Corps, and emphasizes numerical and empirical data. Autobiographical books or journalistic analyses have been omitted or treated briefly; some interpretive articles are discussed. The book is technical in tone and noncontroversial in nature. Only the final chapter, "An Overview of Peace Corps Goals and Research," is concerned in part with value statements and summary evaluations of specific programs or of the Peace Corps as a whole. A 41-page bibliography is included. (Author/AJ)

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Par for the Corps

A Review of the Literature on Selection, Training, and Performance of Peace Corps Volunteers

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To my wife, Corliss

Preface

This book grew out of my own respect for the Peace Corps and my hope to contribute in a professional way to knowledge of the Peace Corps and to international understanding. What was to be a brief article has increased substantially in size as I have learned the magnitude of the research effort involved in the operation and maintenance of the Peace Corps.

I apologize to specialists in fields distant from my specialty of educational psychology for any misinterpretations I may have unintentionally committed in describing their work. I am especially aware that I may have invoked a narrow definition of "research." I chose to emphasize those studies which include reports of numerical data such as the probability of early return to the U.S. by Volunteers assigned to different duties or different geographical regions. Autobiographical books by Volunteers or journalistic analyses of Peace Corps activities have been omitted or treated very briefly. Some interpretive articles are discussed, but these may receive less than their due.

This emphasis on numerical and empirical data stems in part from the nature of the research commissioned by the Research Division of the Peace Corps. Because of an early concern that selection of Peace Corps Trainees and Volunteers be as effective as humanly possible, the Research Division has sponsored a great deal of psychological research. Emphasis has also been given by the Research Division to anthropological, educational, medical and a little sociological research. Research by political scientists has almost never been sponsored by the Peace Corps, and little such research is reported here.

I have attempted to survey both the research supported financially by the Peace Corps and that done on the Peace Corps under other sponsorship. Much of this research has been reported in book or journal form. However, a major reason this book is needed is that a substantial proportion of reports to the Research Division have had limited printings, are not easily obtainable in view of their scarcity, are not cited in abstracting journals, and are unlikely to be submitted for formal publication elsewhere. Thus this book is intended to give archival evidence from a body of otherwise inaccessible material as well as to survey research reported in standard sources. Though a substantial proportion of the studies on the Peace Corps are cited here, no attempt has been made to mention every such report.

Like most of its sources, this book is technical in tone and noncontroversial in nature, except in the last chapter. The lay reader will, unfortunately, find a good many complicated statistical remarks interspersed among more comprehensible statements; I encourage him to skip difficult passages and go on to better things. In the final chapter I have been so presumptuous as to make recommendations about further research intended to clarify matters discussed earlier or answer fundamental questions about the purposes and function of the Peace Corps.

I wish to express my appreciation to the many people who have facilitated preparation of this volume. I am greatly indebted to Dr. Albert Rosen, who had independently begun writing a review of this kind and gave me his materials and early manuscript. We had hoped to make this a joint publication, but other time commitments on his part in recent years made this impossible. I specifically express appreciation

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to Al for his contribution of the title of the book and great portions of Chapter 2, 3, and 4, now so modified by me that he deserves great credit but no blame for their final form. I especially thank Drs. Joseph G. Colmen, Robert E. Krug, Edwin Barker, William R. Meyers, and Roger Popper (each of whom has been Director or Acting Director of the Peace Corps Research Division or equivalent) and Joyce Jackson of the Research Division staff for many kindnesses in providing Research Division publications and answering questions related to this project. Preparation of this book would have been impossible without their assistance. A host of other scholars have provided articles and advice, for which I thank them most appreciatively. Space does not permit listing them all, but I cannot omit the name of Dr. Lewis R. Goldberg, who helped greatly in directing my early search for materials as well as providing reports of his own studies. Dr. Jesse G. Harris, Jr., provided very helpful comments upon a large portion of the final draft, leading to several modifications of it. In addition he was generous in providing manuscripts and articles on the Peace Corp. Dr. Richard R. Jones and Dr. Zanvel E. Klein were continuing sources of information and advice. I am also grateful to my friend and colleague, Dr. Chester W. Harris, for advice on a number of statistical points discussed in this book. Danny Christ performed much bibliographic work, and Dr. Ziva Peleg provided invaluable assistance in polishing the final draft and completing the listing of references in standard form. Linda Kauffman typed most of the final manuscript, and I am grateful for her typing skill and editorial contributions. Much of the cost of preparing this book was borne by the Committee on Research of the

University of California, Santa Barbara, and by the Work-Study Program there, sponsored by the Office of Economic Opportunity. My children, Carolyn Cotton Fishel and Keith Cotton, were understanding of some time committments I gave to this book which might otherwise have been theirs as they were growing up. Finally I express great appreciation to my wife, Corliss, for her encouragement and support; this book is affectionately dedicated to her.

In customary fashion but most sincerely I absolve all persons listed above of responsibility for remaining errors of omission and commission and for faulty judgments which may appear in this book. In particular, since I have never been employed by the Peace Corps, it is specially important to emphasize that all interpretations are my own and that assistance of Peace Corps staff in providing information in no way implies their agreement with the conclusions drawn in this book.

I thank the following authors, research organizations, and publishers for permission to reproduce their information in my tables and figures indicated below:

Roper Research Associates and the U.S. Peace Corps, Table 3-1; George Nash and the Bureau of Applied Social Research, Columbia University, Tables 3-2, 3-3, and 3-4; M. J. Allard, Table 3-7; Joseph G. Colmen, Robert E. Krug, and American Institute for Research, Table 4-1; Robert E. Krug and American Institute for Research, Table 4-2; Joseph G. Colmen, Table 4-4; M. J. Allard and L. Thiel, Table 4-5; John B. Carroll and Graduate School of Education, Harvard University, Tables 5-1 and 5-2; Jean S. Kerrick and The Journal Press, Table 5-3; Joel Richman, on behalf of G. G. Stern (deceased), Table 5-4 and Figure 3-1; Gary D. Berthold and David C. McClelland, Table 6-1; George Comstock, Nathan Maccoby and the Institute for Communications Research, Stanford University, Tables 6-2 through 6-8; Stanley Lichtenstein and International Research Institute, American Institute for Research, Table 6-10; Richard R. Jones and B. T. Napolitano, Table 7-1; Morris I. Stein and John Wiley & Sons, Table 7-2; Alfred I. Fiks, Figure 5-1; Jean S. Kerrick, Figure 5-2; and Richard R. Jones, Figure 7-1.

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June, 1975

Chapter 1

Introduction

The Peace Corps, since its inception in early 1961, has probably had the most comprehensive system ever developed for large-scale selection of personnel. As of June 30, 1973, 389,387 persons had applied for acceptance into a training and selection program of about 3 months duration (ACTION 1973c, p. 18). By the end of that year 74,149 had become Trainees (ACTION, 1973c, pp. 6-7). Nearly 50,000 persons had served as Volunteers by March 20, 1973 (Committee on Foreign Relations, 1973, p.7); about 45,000 had returned from Volunteer service by June 30, 1972 (Committee on Foreign Affairs, 1973a, p. 50). Because of the magnitude of this endeavor, a scholarly review of research related to it seems desirable. The purposes of this review are to (a) describe the selection procedure, (b) report and evaluate research on assessment, selection, training, and overseas performance, (c) suggest ways of utilizing research findings, and (d) suggest specific research needs. This book includes a good deal of general background material about the Peace Corps. Readers desiring even more historical and operational information are referred to Carey's (1970) definitive The Peace Corps. A large number of autobiographical or semi-autobiographical reports of Peace Corps activity also exist, ranging from R. Sargent Shriver's (1964) The Point of the Lance, describing the Corps from the vantage point of the first Peace Corps Director, to Thomsen's (1969) Living Poor, giving experience of a farmer assigned as a Volunteer in Ecuador.

The Beginnings of Research on the Peace Corps

In 1960 Congressman Henry S. Reuss of Wisconsin and the late Senator Richard L. Neuberger of Oregon introduced identical measures calling for a non-governmental study of the "advisability and practicability" of a Youth Corps sponsored by the U. S. Government. By August 1960 the Mutual Security Appropriations Act had been enacted, making available funding for such a study, and by November the International Cooperation Administration had contracted with the Colorado State University Research Foundation to perform the study, since reported (Albertson, Birky, & Rice, 1961) in official form and subsequently in a form adapted for the public at large (Albertson, Rice, & Birky, 1961). On March 1, 1961, President Kennedy issued an Executive Order creating the Peace Corps as a temporary agency in the Department of State. The Albertson, Rice, and Birky Final Report, issued on May 1, 1961, included a number of recommended guidelines for Peace Corps operation, its conclusions and recommendations being included in the record of hearings of the House Committee on Foreign Affairs concerning H.R. 7500, the bill which established the Peace Corps as a permanent agency (Committee on Foreign Affairs, 1961, pp. 75-77). It is of particular note to a review of empirical research literature on the Peace Corps that the final recommendation of this report read,

> The Peace Corps idea has deep roots in American philosophy, has been developed in practice by a number of voluntary agencies, and shows every promise of working successfully if carried out in accordance

with these principles. In many ways, however it is still experimental.

Recommendation: The Peace Corps should start on a small scale and remain flexible in its procedures. From the very beginning, a well-conceived evaluation and research program must be built into the Peace Corps. Since the Peace Corps is itself only a part of the total U. S. developmental assistance effort, this research should be closely related to research on other aspects of our aid program.

In line with this recommendation the staffing plan provided to Congress by R. Sargent Shriver, first Director of the Peace Corps, included a position for a Director of Planning and Evaluation, responsible among other duties for conducting or arranging for the conduct of Peace Corps research activities. During much of the history of the Peace Corps there has been a Division of Research or Evaluation and Research operative under this Director.

The present monograph surveys most of the publications of that Division as well as a number of other studies performed independently of the Peace Corps. Some Research Division publications report in-house research, but most report on research projects contracted to universities or private research organizations. A major reason for this review is the need to disseminate information which has not reached journal or book form or been cited in sources such as the *Psychological Abstracts* and will be difficult to obtain in future years because of the limited number of copies available from the contractors, authors, or the Peace Corps.

The Colorado State University Research Foundation Final Report had emphasized the need for very careful selection and training of Peace Corps Volunteers. Understandably, then, two of the earliest research reports prepared for the Peace Corps were a review of selection methods already in use for overseas assignment by private organizations or other national or international agencies (McGinnies, 1961) and a listing of tentative requirements for Peace Corps personnel overseas (Spector & Thomas, 1961). McGinnies emphasized that validation studies of selection methods in use were relatively uncommon, raising a question about the effectiveness of those methods, which seemed to employ many psychological test instruments but to rely primarily upon scientifically untested assumptions that particular instruments and qualifications were appropriate. His report summarized the conclusions of previous studies with respect to selection criteria related to such characteristics as character and temperament, attitudes, motivation, intelligence, experience, health, and marital status. A second part of the report discussed selection instruments and techniques, ranging from projective techniques and self-report inventories to interviews and observational tests.

Spector and Thomas (1961) developed their recommended requirements for overseas effectiveness in selection by first collecting 3,070 so-called critical incidents reported by 624 different respondents (employed in overseas organizations such as the International Farm Youth Exchange and the Pan American Union) and reflecting experience in work assignments in 91 different countries and territories on four continents. Most of these incidents were reported on questionnaires asking 16 questions about effective or ineffective performance in overseas work assignments. The informants' categorization of behavior as effective or ineffective was accepted by the investigators, who proceeded to classify the 3,070 incidents into 17 categories such as Conveys Information and Takes Advantage of Opportunities. The first-listed category just given is an example taken from a group of 10 which Spector and Thomas called Effective Performance results; the latter-named category is an example from a group of 7 called General Behavior Characteristics. Spector and Thomas used many of the critical incidents as examples in two Peace Corps training manuals, letting the description of specific overseas situations form the basis for discussion during training or for role-playing in which Trainees tried to work out appropriate responses for themselves to make in similar situations.

Spector and Thomas concluded their study by recommending a set of 45 attributes from 11 basic categories for consideration to be measured in a selection test battery. The manner of deducing this group of requirements from the set of critical incidents is not explained, but the list of attributes (Willingness to Work Hard, Ability to Learn Foreign Languages, Ability to Tolerate Recurrent or Long-term Discomfort, etc.) has the advantage of being linked to these reports of significant overseas experiences rather than merely of appearing reasonable to persons without overseas background.

A somewhat later review (Gollin, 1963) also forms a point of departure for Peace Corps research by summarizing methods of evaluating overseas programs and personnel of private voluntary agencies (primarily religious in origin), governmental and UN agencies, and business firms. Gollin found that most such evaluation had been informal, operative at the executive and personnel management levels of the organizations concerned and conducted independently of research programs in the social sciences which might have increased the validity of those investigations. At its best, however, evaluation proceeded in five steps: (1) specification of aims or goals, (2) choosing instruments for measurement,

(3) the design of research, (4) the collecting of data, and (5) analysis and reporting. Gollin suggested that, in contrast to other forms of research, evaluation research is conducted within an on-going organization and for the purposes of that organization. Consequently, it must take into account organizational processes. For example, recommendations which are impossible to adopt within foreseeable budgetary developments become useless adjuncts to the evaluation process.

One suggestion by Gollin for Peace Corps research deserves more attention than it seems to have received. Gollin (1963, p. 12) wished to see year-by-year comparisons of Volunteers as means of learning about "shifts in bases of recruitment, character of skill groups and trends of their representation among applicants, age differences, and a variety of other background considerations." Such data exist to some extent and will be reported in this monograph to the extent available. However, the focus of Peace Corps research has been on characteristics of personnel and activities at a given time or in a given project.

We turn now from planning research to research about actual Peace Corps operations. Some readers, particularly those relatively unfamiliar with the Peace Corps, may find it useful to examine the summary sections of Chapters 2 through 7 before reading the body of any of those chapters.

Chapter 2

Methods of Selection and of Measuring Performance at Different Stages of the Volunteer's Peace Corps Experience

Since the review of selection research will be presented according to those stages of selection where significant decisions are made, an initial overview of these successive hurdles is in order. The basic structure and process of selection solidified quite early, so that an outline of its typical operation from 1962 to 1970 can be made fairly readily. However, changes in tests used and overseas evaluation procedures have occurred frequently, as mentioned later in the chapter. Furthermore, we shall see that a major change in selection procedure occurred in 1970. The four main steps in the selection process will be described. Carp and Nolan (1965) should be consulted for a more detailed description of the first three stages as they were carried out from 1963 to 1965. Wiggins (1973, pp. 580-603) has provided an extensive summary and evaluation of Peace Corps selection procedures, as compared to other landmark psychological assessment projects. The present chapter is limited to describing stages of selection and service, plus a number of predictor and criterion measures. Chapter 4 shows the degree to which the predictors have been successfully used. Some evidence on reliability of measures appears in Chapter 3, but all validity data are in Chapter 4.

Suitability Screening

Applicants fill out a detailed questionnaire and are encouraged to provide a transcript of grades if they have had college work. In the past, approximately 80% of all applications have been obtained from college students (Carey, 1970, pp. 81-82; see also Chapter 3 of present book). The only requirements are that applicants be U. S. citizens, at least 18 years of age, with no dependents under 18, and, if married, both spouses must apply. (The requirement that applicants have no dependents under 18 has always permitted exceptions for Volunteer Leaders;[1] recent recruiting literature encourages applications by potential applicants with up to four dependent children.) At one stage of Peace Corps history, applicants took a test of language aptitude and verbal aptitude, but the latter has not been required since September 1966 of those recruited from college campuses and the former has recently been abandoned also. Formerly there were also tests of specific academic fields, and of French or Spanish for those claiming any competence. Krug (1962a) has briefly described the original tests. From the application questionnaire a judgment is made by a pre-screening clerk concerning those obviously not suitable due to little education or skill development, aberrant personality, medical or legal ineligibility. In order to definitely rule out a candidate, such negative judgments must be verified by a Suitability Review Board (see next stage) or by medical or legal reviewers. Fourteen percent of applicants are screened out at this stage. For the others, each of the references listed in an application form as well as additional former employers, applicants' physician, and officials of schools he attended, are mailed forms providing for ratings and open-ended evaluations. At least eight references are contacted in this manner; approximately 80% are completed and returned (Carey, 1970, p. 85).

Initial Assessment

Within three weeks after the reference letters have been mailed out, a screening clerk checks the applicant's folder to determine whether it appears sufficiently complete to decide whether or not an invitation should be extended. He may refer medical or legal problems which have been missed to a liaison person. If he finds at least three negative references, he refers the case to the Suitability Review Board. A member of this board, whose background includes graduate training in the behavioral sciences, is the only person other than medical or legal personnel or branch officers authorized to reject an applicant. About 12% are rejected at this point.

Those applicants remaining are considered by the Control and Processing Section. Here, the decision is mainly to refer the folder either to the Suitability Review Board because of minimal skills (about 2 to 3% of the cases), or to the desks of the region which seems most appropriate in terms of regional demands for specific skills consonant with applicant preferences.

Classification

A Classification Assessment Officer, combining a behavioral science background with special knowledge of Peace Corps programs, attempts to find a project which will make appropriate use of the applicant's abilities, personality, and geographical preferences. The major possible decisions are (a) to accept for a specific program requiring a designated skill, (b) to recommend that the applicant be considered by the

Classification Officer for another region, (c) to delay processing for a specified length of time, or (d) to recommend rejection on the basis of inadequate skill or unsuitable personality. The Classification Officer evaluates the letters of reference as well as the questionnaire, Placement Test data, and college transcripts, if the latter are available. Using 5-point scales, he rates the candidate for a specific project on Language Aptitude, Motivation for the Peace Corps, Functional Intelligence, Emotional Maturity, Interpersonal Relationships; and on a 3-point rating for Overall Suitability for the project. Only those with at least a 3-rating on Overall Project Suitability receive continued consideration.

Approximately 40% of all applicants are accepted. When the decision is to accept the applicant, a packet is mailed containing an invitation from the Peace Corps director to enter training at a given date, a brief description of the type of work and designated country and of the training and selection process, and a deadline for deciding whether or not to accept the invitation. Applicants must wait about 16 weeks on the average before receiving an invitation (Seashore & Bowers, 1963, p. 7). We shall see evidence later that variation in the delay period can affect the probability of accepting an invitation to enter Peace Corps training. Approximately 40% to 50% of invitees accept the invitation. In some cases an assembly of all persons accepting invitations for training in a certain project has been held. At this assembly each potential Trainee receives a 1-hour interview; a few persons are excluded from training after this screening interview (J. Harris, 1972, p. 182). The orientation aspects of this pre-invitational staging are described in the Peace Corps' Tenth Annual Report (Peace Corps, Office of the Director, 1971, p. 27). This staging procedure, often called PRIST, has varied in popularity. It seems to have been instituted as a substitute for the extensive screening previously associated with use of Selection Boards during training. In June 1971 Peace Corps Director Blatchford was hoping PRIST would be used for half the PC training programs that summer and possibly all programs thereafter (Committee on Appropriations, House, 1971, p. 740.) In 1973 Peace Corps officials were planning to have 60% of their final stage applicants go through PRIST screening; it was reported at that time that follow-up studies showed that Volunteer and host country supervisor satisfaction was greater for Volunteers screened by PRIST than by other methods (Committee on Appropriations, House, 1973, p. 366, & p. 417). A year later Prist was judged to be cost-effective only for certain countries and certain circumstances; its use therefore was being reduced overall (Committee on Foreign Affairs, 1974, p. 5).

Invitation and Full Field Investigation

If a candidate accepts an invitation to begin training, the Peace Corps requests the Civil Service Commission to conduct a detailed background investigation. This consists of interviews with neighbors, supervisors and associates and checks of credit and police records in communities where the candidate lived. Acceptees are authorized to take a complete medical examination at a governmental medical facility; about 5% are rejected for medical reasons at this point. About one in every five applicants reaches the training stage.

The background investigation performed by the Civil Service Commission is commonly called a Full Field Investigation. The Full Field report has traditionally been a non-quantitative document of about 25 pages summarizing or even reporting in part verbatim on interviews of anywhere from 10 to 30 or more respondents. The Field Selection Officer, described in greater detail shortly, was at one time the only person at the training center authorized to read these reports. He generally read them and intuitively weighted their information in conjunction with all other information provided to the Final Selection Board, after which he made the decision as to whether a given Trainee would be permitted to go overseas.

Goldberg (1964a) has reported the mean number of contacts made per applicant with different sources of information in 80 background investigations studied. There were an average of .03 contacts with the House Un-American Activities Committee (also .03 with military intelligence), .1 with birth records, 3.3 with teachers, 4.0 with supervisors, 5.5 with police records, and 6.0 with neighbors, among a variety of sources listed.

The Full Field Investigation is anomalous in being begun after invitation but often continuing beyond the point when training has begun and sometimes beyond the beginning of overseas service. It has two purposes: (1) "For gross screening to identify applicants who present very serious suitability questions" and (2) "For a more subtle evaluation of an applicant's personality suitability to the extent that it is available prior to the final selection board for the selection officer to use in conjunction with other assessment data." (Committee on Foreign Relations, 1969, p. 31). If a substantial number of seriously unsuitable applicants (e.g., convicted felons) were getting through earlier screening procedures, the first purpose would be better served by completing the Full Field Investigation before invitation. R. Jones (1967a) asserts that very few persons are de-selected because of data from the Full Field Investigation, suggesting that the first purpose is adequately served by the current late timing of these investigations.

However, he notes that the Full Field data do have predictive value when carefully analyzed, suggesting that they could be used, if available before training, to reject applicants who might otherwise endure the unpleasantness of de-selection during training. Jones' procedure would decrease the costs of training because more of the persons beginning training would eventually receive overseas assignments. However, the Peace Corps commissioned a study to determine whether the Full Field investigation added much predictive power to selection *in addition to training data* (rather than whether training data added much in addition to the Full Field) (Committee on Appropriations, 1970, p. 571), concluding that the Full Field was not cost-effective; the Peace Corps therefore greatly reduced the number of such investigations, saving $1.6 million of those costs in 1971 and anticipating even larger savings thereafter (Committee on Appropriations, House, 1971, p. 825).

Later portions of this volume will indicate how Jones, and also Fitch (1967) to a lesser extent, have used content analysis procedures in order to quantify Full Field data. The degree to which successful prediction of performance during training or in overseas service is possible from Full Field data will also be reported.

Training and Final Selection

Up to the time the candidates appear at the training site, they are known to the Peace Corps staff only on paper. Only when they prove themselves in persanal contacts with Peace Corps personnel and successfully complete the training period (typically three months) can the trainees be selected and legally sworn in as Peace Corps Volunteers.

The number of Trainees per program ranged from 19 to 130 with a mean of 58 in one study of 65 training programs (Stern, Richman, & Ashley, 1967, Table 1). The Trainees spend most of their time in courses, demonstrations and field work in technical skills, language, area studies, American history, comparative cultures, and physical training. The training program is conducted by a project director attached to the training institution (often a university, but recently tending to be an overseas institution[2] or a non-collegiate stateside center), and regular and visiting faculty, including one or more citizens and experienced Volunteers from the host country. A Training Officer from PC (an abbreviation for Peace Corps) headquarters maintains liaison with the institution. Further assessment and selection are the primary duties of (a) the resident staff (full or part-time) consisting of the Field Assessment Officer (abbreviated FAO), psychologist, psychiatrist, and physician, all appointed by the institution with the concurrence of the PC Selection Division; and (b) the visiting staff consisting of a Field Selection Officer, who is a senior psychologist appointed by the PC Selection Office, and the overseas representative, a PC staff person especially familiar with the host country and its job demands.

Much of what will now be said about selection procedures applied only until 1970 when the Peace Corps stopped using a Field Selection Officer and selection boards, (J. Harris, 1972, p. 182.) Therefore, the past tense will be used in the next few pages. We report the pre-1970 procedure in detail because most research on Peace Corps selection was performed before that date. The sequence of assessment and selection activities was somewhat as follows: The Field Selection Officer came to the site around the start of training in order to get acquainted with the staff and to discuss the selection process with them and with the group of Trainees. The Field Assessment Officer was responsible for administering any tests required during the first week as well as peer rating forms about the fifth and tenth weeks. He also conducted interviews with each Trainee, meeting regularly with the training staff in order to follow the progress of each Trainee, preparing a detailed assessment report, and referring diagnostic problems to the psychiatrist or physician. The Field Assessment Officer may have had one or more assistants. The psychiatrist, in addition to interviewing referrals, or making routine interviews of all Trainees in certain projects, conducted several group meetings for trainees which he structured as he wished.

About the sixth or seventh week, the Field Selection Officer returned to conduct the Intermediate Advisory Selection Board meeting. In a pre-Board session he met with the Field Assessment Officer and psychiatrist to discuss any special problems and information about individual Trainees which would best not be divulged before the full Board. The Board meeting was also attended by the project director, associate project director (if any), Training Officer, and overseas representative or regional desk officer. Prior to the end of 1963 a host government official, such as an ambassador or embassy official, was a member of the Board. Although they could be invited since then, this has been uncommon. Starting in early 1966, the Intermediate Board assumed primarily a diagnostic function in which each Trainee's progress was considered with the aim of understanding how his performance could be maximized through feedback about how staff and peers perceived his behavior and performance, further assessment procedures, information-gathering, and followup.

Compared to former policy, de-selection of Trainees was less frequent at this stage, but was carried out in some cases. A rating was given each Trainee by the Field Selection Officer. Ratings of 1 to 3 represent~~s~~ed rejections (de-selections) and had the following meanings: (1) de-selected with no reconsideration possible in the future; (2) de-selected with approval to apply for admission to another project after a specified period, usually of not less than one year; (3) de-selected for this program (e.g.,because of inability to learn French), but eligible for transfer as soon as another appropriate project could be found. The other ratings, indicating favorable reactions to overseas duty, were interpreted as follows: (4) all right for overseas duty only if a special placement (e.g., a highly structured job) could be assured by the overseas representative or his substitute at the Board meeting; (5) a high risk also, but with potentials which suggest that if he found the right conditions he would be one of the top performers (referred to as high risk - high gain); (6), (7), (8), and (9) predicted to perform overseas in the lowest, next to lowest, second from highest, and top 25% respectively, of this particular group. A zero rating, deferred judgment, was used for marginal Trainees who would fail in training unless they made substantial improvement (J. Harris, 1970, Appendix B).

The rating system used until early 1966 was as follows: (1) and (2), de-select because unqualified, or marginal; (3) de-select but eligible for immediate transfer; (4), (5), and (6), selected, and predicted to function overseas in the bottom 25%, middle 50%, and top 25%, respectively, of his group.

The Field Selection Officer returned in the final week to conduct the Final Advisory Selection Board consisting of the same members. After discussion of all prior and new material, and his consideration of the detailed background investigation report by the Civil Service Commission, he was responsible for making final ratings and decisions about who was qualified to go overseas. Once a favorable decision had been made, the Trainee officially became a Volunteer. The rating system was identical to that of the Intermediate Board except that there was no zero category for the FBR (Final Board Rating). The Field Selection Officer met afterward with each individual who was de-selected to try to help him understand the bases for the decision and to plan next steps in his life.

At any time before the Final Board a Trainee might leave through resignation, or be removed through transfer to another project or by de-selection for problems of adjustment or medical or legal disqualifications (disloyalty or threat to national security as judged by Peace Corps legal counsel on the basis of the background investigation initiated by the Civil Service Commission and completed by the Federal Bureau of Investigation).

Annually a small number of Trainees obtained reinstatement after a de-selection decision on the basis of a formal appeal to the Peace Corps Selection Division with final judgment made by the Peace Corps director. Over all programs up to June 30, 1970, 28.4% of Trainees (17,831/62,790) failed to complete the training period successfully or for some other reason did not go overseas (Peace Corps, Office of Administration and Finance, 1970). There were no selection quotas for any program; the percentage of successful Trainees has run as low as 30% in some programs (Carey, 1970, p. 73) but has frequently been on the order of from 44 to 100% for programs with fewer than not 20 Trainees and from 53 to 90% for large programs.

Service as a Volunteer

Following training, the Volunteer is assigned to duty in one of four regions: Latin America; Africa; North Africa, the Near East, and South Asia; and East Asia and the Pacific, with the last two regions having been combined in November 1971 (ACTION, 1973c, p. 10). The most common Peace Corps assignment is to teaching, but Volunteers are also frequently given posts where they engage in agriculture and rural development, health projects, or community development activities such as the establishment of credit unions or the organization of quasi-governmental community groups. The Peace Corps has even sent Volunteers to a region governed by the U.S. -- the UN trust territory of Micronesia -- and considered sending Volunteers to Vietnam during that conflict. The former action was sharply criticized in Congress; the latter possibility was rejected by Jack Vaughn, the second Peace Corps Director (Carey, 1970, pp. 166-168 and 170-173). Chapter 6 of the present book treats Volunteer service in some detail. Also, Chapter 4 shows how well various measures of overseas performance have been predicted from measures obtained during or before training.

Predictors

Before proceeding to the reporting of research, it is necessary to describe the most common measures and criteria on which research has been carried out. Before training begins, the following materials may have been gathered: the application questionnaire, tests of verbal and language aptitude, letters of reference, and assessment summary ratings. During training other items are obtained or formerly were obtained: personality test scores, peer ratings, classroom grades, instructors' ratings, psychologists' and psychiatrists' ratings, background investigations, and Intermediate and Final Board ratings. A few other measures will be discussed below where appropriate. J. Harris (1973) has reported that, beginning in 1970, the Peace Corps administration de-emphasized formal assessment proceedings by staff and mandated maximal use of self-selection, based primarily on criteria of technical performance. Final selection decisions thereafter rested in the hands of the host country Peace Corps director rather than in a selection board. Thus most of the predictors described in this chapter are no longer in use.

Measures Obtained Before Training

Peace Corps Volunteer Questionnaire. Questions are asked about the applicant's sex, height and weight, availability date, geographical preference, age, marital status, military status, health, previous criminal convictions, farm experience, foreign travel, knowledge of languages, teaching experience, education, employment history, kinds of PC jobs for which the applicant feels best qualified, sports and hobbies, organizational memberships, awards, why the applicant wants to join the PC, and eight references are requested. The face sheet specifies that applicants must attach a transcript or have it mailed in by their college, if they have had any college work. Also, the face sheet emphasizes that (a) neither college work no previous langauge training is necessary; (b) an attempt will be made to place applicants according to the country or area they prefer; and (c) those serving in the PC usually receive military deferments, but are not guaranteed exemption from the draft.

Peace Corps Placement Tests. Applicants are now administered only the General Aptitude Test (GAT), but since the fall of 1966, this requirement has been waived for college graduates. Until May 1962, a battery called the Peace Corps Entrance Tests was used. It included the following additional instruments: (a) A multiple-choice test on United States History and Institutions, (b) one of four options for undergraduates in tests of English, Agriculture, Health Sciences, or Mechanical Skills, (c) one of five options for college graduates in Biology, Chemistry, Literature, Mathematics, or Physics, and (d) French or Spanish written tests for those with some proficiency. The battery also included the Biographical Data Blank (BDB) (Krug, 1962b), a checklist of 136 items pertaining to details of education, hobbies, talents, activities, reading habits, etc., scored on keys for General Suitability, Teaching, Child Care and Home Economics, Agricultural Development, and Engineering; (f) the Personal Inventory, containing 89 questions about general health; and (g) the Modern Language Aptitude Test (MLAT). Krug (1962a) has reported more details on these procedures.

Although Krug (1962a) recommended continued use of either MLAT or GAT; the optional subject matter test, and the General Suitability and Teaching scales of the Biographical Data Blank; administration of all but the GAT, MLAT, and the French and Spanish tests was discontinued as of April 1963. How these decisions were made is not clear; perhaps the correlations obtained for these measures with Final Board ratings were

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not sufficiently impressive to justify the lengthy test session required. Starting in May 1966 the French and Spanish tests were also discontinued. The MLAT survived until the late 1960s.

General Aptitude Test (GAT). A test of verbal ability known as the Verbal Aptitude Test and constructed by the Educational Testing Service was originally administered to all undergraduates. It was a one hour, 70-item multiple-choice test of vocabulary, understanding of relationships among ideas and concepts, and reading comprehension.

Two experimental 30-minute versions of the GAT (General Aptitude Test) were administered in April and October 1963. Modeled after the AGCT (Adjutant General's Office, 1940) and the Test of Learning Ability (Richardson, Bellows, & Henry, 1947), they consisted of 105 multiple-choice items of vocabulary, arithmetic, and block counting in approximate order of difficulty in spiral form. A revised version, Form K-LBFI, is essentially similar but consists of 90 items which have been scaled for difficulty. The norm group consisted of a sample of 1,000 drawn from the total group of 3,289 candidates who took the GAT in April, 1963 (Peace Corps, Selection Division, 1963). Raw scores are converted to standard scores with a mean of 50 and a standard deviation of 10.

Modern Language Aptitude Test (MLAT). This test is designed to predict success in learning to speak, understand, read, and write a foreign language. PC uses a short form requiring 30 minutes for 119 items in three parts measuring ability to (a) recognize words spelled approximately as they are pronounced, such as ernst and earnest, (b) recognize the grammatical function of words and phrases, and (c) memorize paired associates (Carroll & Sapon, 1959).

P Standard scores formerly used by the PC are based upon 2,774 applicants who took the MLAT in May 1961 and had "no graduate training and little or no language training. Others took French or Spanish tests" (Peace Corps, Selection Division, 1963, p. 22). In other words, these norms exclude applicants who took Spanish or French tests rather than the MLAT because they had some training or experience with one of these languages.

References. The reference form contains a personalized letter from the director of the Peace Corps stressing the national significance of a successful PC Volunteer; the help which references can provide; that there will be many references; and that no one negative reference can cause the rejection of an applicant. For Relationships with Other People, Job Competence, Emotional Maturity, and Overall Evaluation, the person writing the reference is given a brief definition, asked to rate the applicant on a 5-point scale with descriptive terms, and encouraged to present in narrative form the bases for his ratings.

Assessment Summary ratings. Each applicant is rated on five 5-point scales and one 3-point scale according to specific guidlines. The major kinds of evidence considered in rating each component are or have been:

a. Language: Multi- or bi-lingualism, MLAT score, language study in college with good grades.

b. Motivation for PC: Service-type experiences, references, and statements in application questionnaire.

c. Functional intelligence: GAT score, versatility regarding mastery of skills; academic records, supervisors' comments.

d. Emotional maturity: Stability and flexibility under stress as perceived by references with frequent contact in a variety of situations.

e. Interpersonal relationships: Participation and interest in community, social and school organizations; ease of relating to a variety of people.

f. Project suitability: A predictive rating of 3 (Acceptable), 4 (Very good), or 5 (Excellent) based on a detailed comparison of the applicant's potential assignment and his characteristics. Earlier ratings, on which much published research is based, were made in terms of Overall Suitability rather than in regard to a specific project.

The FAO and FSO for each project receive an Assessment Summary containing these ratings as well as background data on age, education, skills, previous jobs, MLAT, and GAT for each Trainee in their program.

Measures Obtained During Training

Minnesota Multiphasic Personality Inventory (MMPI). Early in the history of the Peace Corps, the MMPI was required to be administered to every trainee. Later, the Strong Vocational Interest Blank was also required. A special PC form of the MMPI (Hathaway & McKinley, 1965) containing only the 399 items in the original nine clinical (plus Si) and three validity scales was given early in the first week of training. Now no personality testing by psychologists for selection purposes is permitted.[3] (For comprehensive background information on development and interpretation of the MMPI scales, see Dahlstrom, Welsh, and Dahlstrom, 1972; pages 11 and 31 mention Peace Corps use of the MMPI.

Prior to mid-1965 the conventional booklet was used with all 566 items. The introduction on the cover of the new booklet indicates that (a) the answer sheet will be destroyed after it is scored and only the scale scores, rather than individual item responses, will become available to the FAOs and FSOs, who will keep the scale scores confidental and destroy them when selection ends. The MMPI answer sheets are scored mechanically by a national test scoring service. If the FAO presented results to Board participants, they were in general terms, usually integrated with other assessment data.

The FAO sometimes administered other tests such as the F scale, EPPS (Edwards Personal Preference Scale, 1953), and sentence completions, usually in the first week. Single copies of a Self-Evaluation form (PC-187) and authoritarianism (F) scale (PC-334) have sometimes been sent to each FAO and duplicated for use with the training group.

Psychologists' ratings. The FAO formerly rated Trainees on 5-point scales for Competence, Maturity and Emotional Stability, Motivation, Morale, Interpersonal Relations, and Prediction of Success in Peace Corps Service. This procedure, started in late 1961, was modified on the basis of research by Bartlett, Walder, Schneider, Stoloff, and Voytas (1966) to give examples of characteristics appropriate to scale values 1 through 5 for the first five scales and a checklist for the final scale.

Psychiatrists' ratings. Originally, every Trainee was seen by the project psychiatrist and evaluated on 5-point scales for Psychopathology, Character Structure, Object Relationships, Reality Testing, Ego Functioning, Motivation, and Prediction of Success in Peace Corps Service. More recently, starting Trainees were seen only on referral by the FAO or FSO, now also abolished.

Reliability coefficients for the scales just mentioned are not available. However, the reliability of psychiatrist's ratings of Peace Corps Trainees is subject to question. Harris, Fisher, and Epstein (1963) compared first and second psychiatrist interviewer's ratings of from 54 to 58 Trainees on the following scales: (1) Effectiveness in a Stressful Overseas Teaching Assignment, (2) Successfulness of Coping Techniques in Past Life Situations, (3) Relationships with Others, (4) Estimate of Likelihood of Developing Psychopathology, and (5) Scaled Order of Effective Functioning of Subjects. The highest correlation between first and second interviewers was .41 for Scale 5; the lowest was .25 for Scale 1.

One must keep in mind that Trainees may be tempted to withhold information from psychologists, psychiatrists, or other staff personnel in PC training projects. Goldberg (1963) has quoted one report from overseas about two unsatisfactory Volunteers who were hard to identify early because of the good impression they made when first meeting people. The same source also indicates that a group of Volunteers reported that during training they had all felt they should not discuss problems with staff members lest this information be used as evidence for de-selection.

Peer predictions (nominations) and preferences. One common procedure, administered by the FAO shortly before the Intermediate and the Final Boards, requests each Trainee to list in any order the five in the training group who is likely to be most successful overseas and the five who will be least successful, with comments on the bases of each prediction. He is also asked to list the five he would most (and least) prefer to be assigned with overseas. The reference group is generally all the Trainees in the program, but it may be smaller in large programs, or if there has been some other reason for insufficient contact with some of the group. Data are made available by the FAO to Board participants regarding the number of times each Trainee is listed under each type of prediction and preference, and quartile rank for each.

An earlier procedure, now shortened because of some evidence of high intercorrelations between items, asked for this same information without comments (although the negative prediction was frequently not asked for) as well as a listing of five in each of the following categories: (a) With whom would you most like to talk over your problems? (b) Which Trainees are most likely to display leadership qualities overseas? and (c) Which Trainees are most likely to adapt readily overseas?

Course grades during training. Before the Intermediate and Final Boards the FAO obtains from each faculty member a grade for each Trainee taught by him and a quartile number for each representing relative standing in each course.

Instructors' ratings. Each instructor is asked to rate overall suitability for PC service on a 5-point scale. Formerly instructors also rated Trainees on performance in particular subject areas; and rated them on the same six scales as did the psychologists (as mentioned above), and ranked them in each course.

Criteria

The two major classes of criteria used in research on selection and performance have been the Final Board ratings and various overseas evaluations. Ryans (1969) has indicated that criterion selection for the

Peace Corps may have received too little systematic attention. This issue will be discussed in Chapter 8.

Criteria of Training Performance

Final Board Rating. The FBR has already been mentioned, and is listed here in order to consider its reliability. Goldberg (1966) has presented measures of consistency for the same Field Selection Officer at several Boards with overlapping membership. These were the Intermediate and Final Boards of two training projects and Final Board of a third, all at a Hawaiian site where he was the Field Selection Officer. The most relevant stability measure is an $r = .97$ for FBRs of 46 Trainees before and after Board discussion.[4] The Field Selection Officer was also highly consistent in his Intermediate Board ratings before and after discussion; $r = .97$ and .96 for N's (sample sizes) of 57 and 88. His consistency from Intermediate to Final Board in two projects was shown by $r = .74$ and .77 for N's of 46 and 76. All of these Pearson coefficients were significant at $p = .001$. The last two were underestimates of stability of ratings since they were based on truncated distributions. For example, the FBRs for the first project were for only the 46 Trainees left of 57 rated at the Intermediate Board. Most of the Trainees who had left can be assumed to have been at the low end of the ratings, reducing the range of the distribution and the r. Likewise, for the second project the N dropped from 88 at the Intermediate to 76 at the Final Board. Thus, the stability of the ratings is impressive. J. Harris (1972, Table 3) has reported composite board scores to have somewhat lower reliability from Intermediate to Final

Boards than would be expected from Goldberg's results plus the use of several raters at each board meeting. These reduced correlations (nonetheless in the range from .60 upward) are understandable in view of fluctuations in the composition, procedures, and size of the two Boards, Harris' study reflecting a more typical operational situation than Goldberg's.

Goldberg (1966) has also provided systematic data on the rating behavior of Board members. His findings, consistent across Boards, were that (a) there is maximum convergence in judgment following Board discussion, with _r_ = .66, .76,and .68 for three Boards for all pairs of participants before discussion, and after discussion, with _r_ = .82, .84, .83, .87, .76, .78, .81, .79, and .75 for nine Boards; (b) for individual members, the mean correlation of their pre- and post-discussion ratings for three Boards was _r_ = .87, .90, and .87; (c) after discussion, mean ratings of Trainees dropped and variability increased, apparently because much of the discussion focused on negatives and led to increased differentiation; and (d) after discussion, there was more convergence with the Field Selection Officer than with any other participant.

Attrition during training. It is possible to use the percentage of persons beginning Peace Corps training but not being sent to a host country as a measure of effectiveness of selection and training. Or one can attempt to predict a dropout versus go abroad score for each Trainee from information about his background. Attrition scores of this sort have not been widely used in Peace Corps research.

Criteria of Overseas Performance

Ratings by administrative personnel. Krug (1962a) reports on the experimental use of the so-called _Rating Scale for Overseas Performance_, developed by the Peace Corps. Ordinarily the Peace Corps Representative in the country where the Volunteer worked rated each Volunteer on a 5-point scale for each of the following characteristics: Job Competence, Relationships with Other Peace Corps Volunteers, Relationships with Counterpart (the host country person working most closely with the Volunteer at his level of duties), Relationship with Other Nationals, Emotional Maturity, and Overall Evaluation. For Philippines Project I, Krug reports the use of a single score on a 5-point scale of overall performance. Some ratings in Nigeria assigned a maximum of 50 points for Teaching, 10 points for Person-to-Person Relationships, 10 points for Appreciation of Nigerian Culture, and 10 points for Adjustment. Colmen, Kaplan, and Boulger (1964) report validation data using Maturity and Overall Evaluation from up to 351 PC projects and for these two plus three other criteria ratings from 160 projects.

Allard, Ralya, and Wrigley (1964) have reported overseas performance of 3,332 PCVs, as shown on ratings made on Peace Corps Form 298, a 35-item form with 23 items usually scorable on a 5-point scale, most of which bear on overseas effectiveness. All items from the Rating Scale for Overseas Performance are also included in Form 298. A representative item from Form 298 is Item 20: "How well do you know this Volunteer: very well or hardly at all?" "Very well" would have led the rater to mark a "5"; "hardly at all" a "1", with other degrees of knowledge leading to a "2", "3", or "4".

Allard et al. performed a factor analysis on the 23 items just mentioned, obtaining three factors: Factor 1, accounting for 41% of the variance, was a composite of job competence and facility in interpersonal relationships. The Overall Evaluation item is most representative of this factor. Factor 2, accounting for 10% of the variance, is not related to quality of performance. It describes the degree to which the Volunteer lives and works in isolated rural surroundings. Factor 3, accounting for 7% of the variance, involves language fluency. Bartlett, Stoloff, and Schneider (1967) have performed a second factor analysis of Form 298 data, using a form slightly revised in 1966. Their data came from only 100 Volunteers based in a total of three countries. Only two factors appeared: the general performance factor also obtained by Allard, Ralya, and Wrigley (1964) and a poorly defined factor related to job difficulty and to whether a Volunteer was assigned to a provincial or national capital. This factor may be similar to Allard et al.'s second factor of degree of isolation in one's work location. As in the previous study Bartlett et al. found that the Overall Evaluation item had the highest first factor loading of any item in the rating scale.

For a time, Form 298 was routinely employed by Peace Corps Representatives, or Peace Corps Directors in countries with Directors rather than Representatives. Ratings were made regarding each PCV after a 3-month period of work overseas; after 12 months overseas; and after 21 months overseas, the time when he was scheduled to return to the United States.

Reference is also made by Boulger and Colmen (1964a) to a 6-point rating on Job Competence, Emotional Maturity, Interpersonal Relations, and Overall Rating.

Other ratings were occasionally made by administrators, as when each regional representative in Nigeria was asked for research purposes to name the outstandingly good and poor volunteers in his region, with regard to Teaching Performance and Overall Performance separately (Lichtenstein & Spector, 1964). Holtzman, Santos, Bouqet, and Barth (1966) also reported using such a questionnaire, an official Peace Corps form with 18 items, often employing seven or eight points per item.

There are only a few reports on the reliability of the routine overseas performance evaluations. Wrigley, Cobb, and Kline (1966a) found that the correlations between first, second and third ratings of Overall Performance average .60 across a variety of projects. For first-second, first-third, and second-third correlations, r = .62, .57, and .60, respectively, with sample sizes of 1,430, 846, and 1,809. Smith (1965a) has reported an r of .71 for the same Peace Corps staff member rating the PCVs in Ghana once in their first year overseas and once at the end of their second year. The correlation across raters over the same period in Ghana II project (Smith, 1964a, p. 113) was only .32.

There are several indications that conscientious or informed ratings are sometimes hard to come by, in part because of the difficulty of Peace Corps overseas staff in keeping track of farflung Volunteers. This was found by Holtzman et al. (1966) and Stein (1966),who used other measures of overseas performance as well. Allard, Ralya and Wrigley (1964) found for their sample of 3,332 Volunteers rated at 12 months overseas that all 23 items used in their analyses were rated for only seven Volunteers (.21%). Krug (1962a, p. 13) reported that the Peace Corps Representative who made the ratings for one of five countries' projects being analyzed, stated that he did not know any of his Volunteers "very well" and knew only 18 of 28 "fairly well." Wrigley et al. (1966a) indicated that criterion ratings were sometimes made in a reluctant and perfunctory manner. Mischel (1965, p. 513) quoted from the report of the field supervisor who was responsible for submitting the criterion ratings:

> The ratings are in many instances based on very scant evidence and in some cases amount to nothing more than guesses. Much of what the Volunteers have been doing since arriving at their post (approximately eight months ago) has gone unobserved by any Peace Corps or training staff, and the judgments recorded here have been constructed out of the fragments of evidence we do have and the second-hand opinions of

school principals and others who have had more opportunity to observe the Volunteers on the job.

Whether or not any PC staff person making the overseas ratings was present at the Final Board in this country is rarely indicated although awareness of the FBR may make a difference in the overseas rating. Ironically, for one project where this issue is discussed, there is contradictory information. Mischel (1965, p. 15) reported an $r = .20$ ($p > .05, N=35$) for FBR and total evaluation overseas, stating that "the criterion ratings were made independently by the field staff in Nigeria...without **any** knowledge of the predictor data collected earlier" (p. 512). But Krug (1962a, p. 15, p.32)stated that $r = .40$ ($p < .05, N \simeq 37$)for this project, higher than for the four other projects for which overseas criterion data were available, but "unfortunately, the overseas rater was a member of the original Selection Board."

Stein (1966) has attempted to describe and evaluate this criterion, albeit cursorily. He, too, has failed to point out that one of his three criterion raters was on the Final Board (see his p. 18fn and p. 169fn) and to discuss the implications of that fact (although "contamination of the criterion" is not necessarily undesirable, as will be indicated in some detail later).

As of approximately early 1965, routine overseas evaluations were terminated, apparently because of difficulties just mentioned and because waning interest in the task was producing only sporadic returns.

Richard Jones (1968b) developed the Overseas Staff Questionnaire (OSQ), a 17-item instrument intended to provide performance ratings on Volunteers. Because this scale did not yield relatively independent clusters of items reflecting different aspects of overseas performance,

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Jones developed a revised 20-item OSQ which also exhibited interrelated clusters but did prove to provide performance criteria which could be predicted from selection and training data (R. Jones, 1969b). Clusters labeled General Evaluation, Cultural Interaction, Extra-Job Activity, and Site Difficulty were reported.

The references just cited also report the development and revision of a 105-item self-report measure of overseas performance, the Overseas Volunteer Questionnaire (OVQ). R.Jones (1969b, Appendix F) reports that 25 clusters were finally developed from the OVQ, including (among others) Host Country National Job Performance, PCV Job Model, PCV Impact, and Culture Adjustment.

Ratings by research personnel. Smith and Ezekiel personally rated 51 PCVs in Ghana near the end of those Volunteers' first year of duty. The Rating Scale for Overseas Performance was employed. (See Smith, Fawcett, Ezekiel, & Roth, 1963.) Ratings from one or the other of these investigators were averaged with two separate ratings from the Peace Corps Representative and Deputy Peace Corps Representative in Ghana to give a more stable set of ratings. Smith (1965a) also reports using interview Q-sort factor loadings as criteria of overseas performance. These were obtained by having 12 advanced graduate students in psychology (naive to the project) sort the transcripts of field interviews for each PCV with regard to a 65-item Q-deck related to role perceptions, personal agenda, and role performance, and a 64-item deck regarding his personality structure and processes. Two principal components analyses for these decks yielded the factor loadings in question.

Holtzman et al. (1966) made verbatim transcripts of detailed interviews with 57 PCVs six months after arrival in Brazil. These transcripts were used as the basis for ratings on 40 5-point rating scales. For 19 of these scales, raters worked entirely from transcriptions; for the remainder the interviewer himself did the ratings.

Peer ratings overseas. Smith (1965a) asked each PCV in the Ghana project he studied to name several volunteers who were "doing a particularly good job."

Ratings by local residents. Lynch, Maretzki, Bennett, Bennett, and Nelson (1966) obtained information concerning 124 Volunteers in the Philippines, each mentioned by name by at least one of 1,439 residents interviewed in 48 (experimental) municipalities studied where Peace Corps Volunteers had been assigned. A total of 1,004 of these residents gave the name of at least one PCV known to himself; 206 PCVs were reported as known by at least one of the 809 interviewees from 27 (control) municipalities where PCVs had not been assigned. Two sorts of evaluations by residents are of prime importance: (1) If a respondent knew two or more PCVs, he identified the one he liked best and the one he liked least. Further questions were asked about these two Volunteers in an attempt to learn the criteria for "liking" employed by each respondent; (2) A ladder rating was made of each PCV the respondent knew using a 10-point scale anchored by the respondent's describing the best possible PCV and being told he would deserve a rating of 10 and describing the worst possible PCV and being told he would deserve a rating of 1. Many additional questions were asked about the PCVs known to each resident, but the information from such questions should be viewed as correlative to the criterion measures rather than criterion data per se.

Measurement of change in social structure accompanying the Volunteer's service. Dobyns, Doughty, and Holmberg (1966) employed a 100-point, Yes-No item scale of social structure of Peruvian settlements as a means of assessing whether a settlement, town, or city became more socially structured during the period when one or more PCVs served there and whether more change occurred there than in comparable communities without PCVs.

Dobyns, et al. also scored the individual Volunteers on the basis of the proportion of existing institutions with which they worked which were either strengthened or led into new fields by that work. An additional measure was the number of institutions founded with the aid of each Volunteer.

Attrition. Thomson and English (1964) and Krug and Wertheim (1965), among others, have reported on the number of PCVs returning from overseas at various stages of their careers.

Foreign language proficiency. This variable is usually thought of as a predictor variable. However, foreign language proficiency overseas is in some sense a partial criterion with face validity. Colmen and Boulger (1964) show the degree to which it can be predicted from language aptitude scores. They report on two measures: Foreign Service Institute (FSI) Language Proficiency Ratings, based on an oral evaluation conducted by an FSI examiner at the end of a Volunteer's service; and a language proficiency rating made routinely by a PC staff member (such as the country's Peace Corps Representative or Director) without conducting a formal examination. Scores on the FSI tests range from zero (no competence) to five (speaking proficiency equivalent to that of an educated native speaker), with a score of three being considered passing by the FSI. Rice (1959) reports a high predictability of FSI scores from checklist ratings but does not discuss FSI reliability directly. The nearest approximation to reliability data for FSI tests which we have found is Fiks and Muth's (1969b) presentation of frequency distributions for 23 Trainees tested twice, with two weeks of instruction (44 hours of foreign language class) intervening and with different testers on the two occasions. The second testing yielded a lower average FSI speaking rating, and the authors report that the correlation between individual performances on the two tests was not perfect. However, no specific correlation value is reported. We will also see reports of FSI scores in a zero to five scale based on tests of reading ability. S-0 will indicate a zero score on the oral test; R-0 will indicate a zero score on the reading test. The PC staff ratings have an opposite ordering: they range from one (excellent command of the language) to five (minimal competence).

Carroll (1966, pp. 32-33) has employed MLA Cooperative Tests in Spanish and the Pictorial Auditory Comprehension Test in Spanish, as well as comparable forms in Portuguese obtained by translating each Spanish item into Portuguese and making thorough checks for statistical comparability (Clark, 1965). These tests were administered to PCVs at mid-tour (after about six to eight months of field experience). At mid-tour Carroll (1966, pp. 69-76) also administered an In-Field Questionnaire which allowed each Volunteer in the study to make self-ratings of Spanish or Portuguese language capability at the time of arrival in the field and at mid-tour. A long statistical chain of relations between different measures was developed for the purpose of relating self-ratings to test scores and FSI ratings: A report that one's language competence was either "equal to the demand" or "superior to the demand" was considered an indication that the PCV was "qualified" in the host country's language. A score of 275 on what is called Σ Listening (a statistical combination of scores from the MLA Listening Test Level L, for persons completing two semesters of college language study, and Level M, for students completing two years of college study) was judged statistically to be the highest score which should be considered an index of nonqualification; all higher scores were to indicate that a Volunteer was qualified. Since Σ Listening was obtained only during training, a further statistical equation was made between that measure and the Pictorial Auditory Comprehension Test (PACT) Form A, indicating that a score of higher than 56.2 on PACT Form A meant that a person was qualified. Now PACT Form A was administered at the end of training, and PACT Form B was given at mid-tour; since the forms were considered alternates to each other, a PACT Form B score of 56.2 was also considered a cutoff score for defining language qualification at mid-tour. Further analysis (Carroll, 1966, p. 146) indicated that a person meeting Carroll's criterion for being qualified would have an FSI S- rating of at least a little better than two. Thus Carroll's standard, based on Volunteers' perceptions of their qualifications, is a little lower than the FSI requirement of a "three" rating.

It should be emphasized that Carroll recognized that the various equivalences he assumed in making several indices of foreign language qualification could not be correct except insofar as average results were considered. Individual inconsistencies between different measures did occur, of course. Yet we conclude that information otherwise unobtainable was provided by using several indices.

Summary of Methods of Selecting Volunteers and Measuring Their Performance

1. Applicants for Peace Corps service first fill out a lengthy application form and may be required to take one or more selection tests, the latter practice having been universally required of applicant in the early years of the Peace Corps. This information plus reference letters and college transcripts is used to decide whether to invite an applicant to enter training.

2. If a person accepts an invitation to be a Peace Corps Trainee, he must pass a physical examination before entering training. Also a Civil Service Commission inquiry (the so-called Full Field Investigation) is now rarely used but formerly was routinely conducted to check on his background as indicated by neighbors, employers, teachers, and other sources such as police records. If highly negative material is discovered, the Full Field report may become a basis for de-selection (separation from the Peace Corps) during training at a point when that report is first available. Otherwise the report, frequently only seen by one official at the training center, but reflected in his comments to the selection personnel, became one of many factors evaluated when selection decisions were made at Intermediate and Final Review Board meetings which existed until recently and were held about halfway through training and at the end of training, respectively.

3. Intermediate and Final Board decisions were subjective but relied

in great part upon measures obtained during training: training course grades, training instructors' ratings, peer predictions of superior or inferior performance overseas, and psychologists' and psychiatrists' ratings. Because these boards used a 9-point scale or some other non-dichotomous scale in addition to making a "Go" or "No go" decision, it is convenient to treat Final Board ratings (FBRs) both as a criterion of training performance and, for persons with FBRs high enough for a "Go" decision, as a predictor of the quality of overseas performance.

4. The most commonly used measures of overseas performance by Peace Corps Volunteers are ratings by administrative personnel in the country where the Volunteer is serving. Other criteria employed are ratings by peers (other Volunteers); ratings by residents of the communities being served; measurement of change in social structure of those communities; premature return to the U.S.; and various measures of foreign language proficiency.

Chapter 3

Characteristics of Trainees, Volunteers, and Their Source Populations

Even before the stages of selection discussed in Chapter 2, the Peace Corps is a factor in the lives of American citizens. Young people are especially likely to be considering Peace Corps service. For that reason we now examine the self-selection process occurring in the general college population. With recently increased emphasis upon recruitment of Volunteers, of all ages, who have vocational skills, the current population of college seniors becomes somewhat less important as a recruiting pool, as may be inferred from information in Chapter 6. Later sections of this chapter will discuss more specialized data about persons in the pre-application stage of potential Peace Corps service.

Population of College Seniors

Most of our knowledge about attitudes of this population toward the Peace Corps comes from interviews conducted by national survey research organizations (Young & Rubicam, 1965; L. Harris, 1966b, 1968a, 1969) with samples of 388 seniors in 20 colleges in 1965; 1,022 seniors in 50 colleges in 1966; and 1,005 seniors in 50 colleges in 1967 (reported in 1968) and in 1969 as well. These students were well aware of the existence of the Peace Corps through pamphlets, television, personal recruiting, newpapers, magazines, radio, and conversations with others. In the three Harris studies more of these seniors believed that the international reputation of the United States was helped by the Peace Corps than believed it was helped by any other program or action. For example, 51% (46%,43%) listed the Peace Corps; 34% (33%,30%) foreign aid; and 16% (no mention %, no mention %) fighting Communism as most helpful (as well as others, adding up to more than 100%); with unparenthesized numbers coming from the 1966 study and the others from 1967 and 1969, respectively. When asked in the 1966 and 1968 reports to "rate the job the Peace Corps has done in working in underdeveloped areas," respondents' percentages were 39 (30 in 1968 report) "excellent;"and 47 (50) "pretty good;" 12 (17) "only fair;" and 2 (3) "poor." Thus, 86% (80%) seemed clearly positive.

L.Harris (1966b, 1968a, 1969) has also provided a breakdown of the total data for three groups, those giving (a) serious consideration to applying to the Peace Corps; (b) some consideration; and (c) hardly any consideration. The resulting percentages in the three groups were 16 (13, 13); 32(33, 39); and 52 (54, 48). Fourteen (10%, 14%) percent of all the men and 20% (20%, 11%) of the women were seriously considering the Peace Corps in 1966, with parenthesized percentages for the 1967 study (published in L. Harris, 1968a) and 1969 study being given when available. Following are characteristics of the "serious" group: (a) more of them considered themselves liberals than did the "hardly" group: 50% versus 33% (52% versus 36% in 1967 and 55% versus 34% in 1969); (b) they indicated that they would be more militant and activist than the average student about participating in causes and issues, such as demonstrations, picket lines, and risking loss of a future security clearance or going to jail; (c) a relatively high proportion were having difficulty in deciding what to do after college - 57% versus 42% for the total group and 45% and 35% for the "some" and "hardly" groups, all in 1966; (e) compared to those who were not seriously considering the Peace Corps, a higher proportion had considered going to graduate school, into social work, or into VISTA and a lower proportion into business activities; (f) compared to the total group, they were similar on what important personal gains they would derive if they joined except that a higher percentage hoped to attain more self-confidence; (g) in 1966 almost all, 89%, felt that the Peace Corps would be helpful to a future career as compared to 64% of the total group.

College seniors' image of the hypothetical person working for the Peace Corps, when contrasted with one employed in a large company or in university teaching,presented several major differences. A much greater percentage saw the Peace Corps Volunteer as wanting to help others, as being idealistic and getting along well with people, whereas few saw the Volunteer as being or wanting to be well organized and efficient and desiring security. Of the total group, 45% (58%, 51%) said they knew someone who had been in the Peace Corps, and 74% (70%, 60%) of these reported that this person's experience had been favorable.

Prior to the point of application, it appeared that many students had considerable information upon which to base a decision, including perceptions of the model Volunteer which may have been close to reality. Thirty percent of those seriously considering the Peace Corps in 1966 would have liked more information, however, on such things as qualifications required, the kinds of jobs available to Volunteers, the host countries, and examples of successful and unsuccessful experiences. They felt that these kinds of information might be disseminated through better literature, the use of returned Volunteers, more use of television, and permanent campus recruiters.

The 1969 L. Harris study gives even more striking evidence of a wish for more information: Among college seniors seriously considering Peace Corps service, 80% said they would be even more interested if they could have a complete explanation of their geographical area of assignment and their job responsibilities before entering training. Of seven possible changes in Peace Corps policy, this was the second most attractive, being exceeded only by the 91% of persons seriously considering the Peace Corps who said they would be more interested if Volunteers could team up with volunteers from other countries and work on joint projects.

It is interesting to note that multi-national projects such as those just mentioned were more attractive than a Volunteer Corps to be operated with personnel from many countries under the auspices of the United Nations. Such a United Nations corps has recently been established (Yared, 1971; Committee on Appropriations, U. S. Senate, 1971, p. 262; ACTION, 1973c, p. 25); whether it will be hampered by student preference for closer national ties in conjunction with multinational cooperation remains to be seen. One Peace Corps Director, Joseph H. Blatchford, has reported that there are some Peace Corps projects which share training or work activities with volunteer projects from one or more of the 24 other countries now sending volunteers overseas (Committee on Appropriations, U. S. Senate, 1971, pp. 282-283; Committee on Appropriations, House, 1973, p. 490). Thus the student desire for multi-national projects is being partially fulfilled.

Because the period under study was a time of increasing student protest, it should come as no surprise that L. Harris (1966b, 1968a, 1969) found increasing signs of activism among college seniors in general and seniors seriously considering the Peace Corps in particular. For the total samples, the percentages calling themselves radical in political philosophy increased from 2 to 4 to 8 while the "seriously considering PC" groups changed in percentage of radicals from 5 to 7 to 15. Harris defined a "most active" group of seniors as those who said they had done at least four of the following things: Signed a petition, participated in a demonstration, joined a picket line, defied the school authorities, risked a future security clearance, violated the law, gone to jail, or participated in civil disobedience. By this criterion the percentage of "most active" seniors increased from 7 to 11 to 18. The corresponding percentages among the "seriously considering PC" groups were 13, 20, and 31.

Scholars interested in the nature and degree of student protest in the U.S. toward the end of the 1960s will find much useful information in L. Harris (1969). In answer to a question of what student demonstrations and protests were all about, 47% of seniors questioned said that students wanted a stronger voice in formulation of school policy; 14% said that rebellion against the establishment was involved; 13% mentioned black students' desires for black studies programs; 12% mentioned the war in Vietnam and the draft; and no more than 6% mentioned any other reason even though multiple reasons were given by many students. The following percentages of students felt that students had too little voice in specific areas of campus administration: 71% for organization of curriculum, 63% for what is taught in specific courses, 61% for tuition and fees, 60% for facuty appointments, 55% for faculty promotions, and 44% for admission standards. Corresponding percentages for 73 black seniors among the total sample were 75, 81, 74, 80, 73, and 63%, indicating greater concern by Blacks at every point and a substantial difference on every item but the first.

Though some goals of student protest were widely accepted among Harris' (1969) sample, prevailing protest techniques were not. Only 24% of the total sample stated support for these tactics though 35% of persons seriously considering the Peace Corps, 47% of those seriously considering VISTA, and 54% of Blacks did so. This study indicated in several ways that the group seriously considering VISTA in 1969 was less like the Peace Corps-leaning group than in previous years, being more active by Harris' definition and generally more radical. Despite the evidence just noted of strong Black dissatisfaction in college and corresponding approval of protest tactics, activism by the black seniors studied was not substantially different from that for the total sample -- 4% more Blacks were in the "most active" group, but 2% more Blacks were in the "least active" group, having engaged in none or only one of the eight defining activities. Harris suggests that the black students sampled were more ideologically committed to change than the white students but, because of career and economic factors, were less active in protest than their ideology would suggest.

J. McDonald (1968) has reported impressionistic findings from two Peace Corps interviewers who visited nine college campuses of several kinds and locations. These impressions are similar to those of Harris (1969) but stress even more strongly the degree of student activism and indicate more apathy toward or even dislike for the Peace Corps than Harris found. Negative views of the Peace Corps seemed to derive from its association with the Federal Government or its presumed contribution to U.S. foreign policy rather than from disapproval of the work of the Corps.

The purpose of studying student activism should be clear to most readers. On the one hand recruitment of Peace Corps Volunteers has historically been proportionately easiest among liberal or radical students though a substantial drop in Peace Corps interest occurred among the "most active" group between 1966 and 1967. If the declines in number of applicants which started in 1965 (Committee on Foreign Affairs, 1968, p. 57) and in total number of Volunteers and Trainees which started about June 30, 1966 (Peace Corps Division of Reports and Special Studies, June 30, 1969, p. 1), were to be halted,[1] Peace Corps recruiters needed to know whether activism was increasing and whether the reputation of the Peace Corps among relatively activist students was being tarnished. The answer to each question seems to have been "Yes" though less decisively so to the second question. Even many typical college seniors were judging that the Peace Corps had become too bureaucratic (19%); was more interested in improving the United States' image than in helping in other countries (28%); that it was no longer possible to say what you really think in the Peace Corps without someone trying to muzzle you (31%); and that a very important reason for not joining the Peace Corps was a preference for VISTA or some other domestic program (16%). Except on this last item, where the two groups did not differ, the percentage of the "most active" group making each response just listed was at least 17% higher than for the total sample.

In contrast to the problem of being able to recruit enough Volunteers from relatively activist college groups, the Peace Corps was receiving criticism in Congressional hearings because of the possibility that some Volunteers might feel they could not support U.S. foreign policy (Committee on Foreign Affairs, 1969, pp. 7-8 and p. 10); might belong to the Students for a Democratic Society (SDS) and constantly criticize every aspect of the U.S. Government (Committee on Foreign Affairs, 1969, p. 27 and pp. 34-35); that there had been perhaps 25 instances of bad publicity about Peace Corps Volunteers; and later that a number of Volunteers participated in quiet support of Vietnam War moratoria (Committee on Foreign Affairs, 1970a, pp. 26-28). Presumably the mismatch between some college seniors' views, particularly those most interested in the Peace Corps, and some Congressmen's standards for the Peace Corps was a contributing factor in the Corps' decision to emphasize recruitment of specialists such as carpenters, businessmen, Certified Public Accountants and electricians, beginning in about 1969; and to allow their families to go with such specialists in many cases. (Committee on Foreign Affairs, 1970a, p. 9 and pp. 24-26). Another contributing factor was requests from host countries for such specialists rather than so many A. B. generalists (Committee on Foreign Affairs, 1969, p. 5 and p. 23; Committee on Foreign Affairs, 1970a, pp. 3-4 and p. 10). This change in policy led to only a very small number of families, including wives and dependent children, being sent overseas at first; the limitation occurring partly because the Peace Corps operates under a restriction that not more than 1 in 25 Volunteers could have his family overseas and for budgetary reasons, too, no doubt (Committee on Foreign Affairs, 1969, p. 15). Peace Corps Director Blatchford testified in 1970 that he hoped to send 200 families overseas in that calendar year (Subcommittee on Foreign Operations and Related Agencies, 1970, p. 560). By the end of 1971 there were 212 Peace Corps families in host countries or in training (Peace Corps, Office of the Director, 1971, p. 12). The first part of Chapter 6 will further describe recent trends in recruitment of Volunteer families and of Volunteer specialists.

Young and Rubicam (1965, pp. IV-D-1 to D-3, Table D2) suggest that those college seniors who would make the best Peace Corps Volunteers are also the most likely to be interested in Peace Corps service. We shall see that the evidence for this inference is tentative. Young and Rubicam used questions about academic achievement, extracurricular activities and other indices of leadership, and value systems regarding creative self expression, helping others, etc., to define a scale of desirability from the Peace Corps' point of view. On the basis of this scale, 388 students were grouped into approximate thirds, being called "highly desirable," "Moderately desirable," or "low in desirability." On the basis of other responses these seniors were also classified as "inclined" toward Peace Corps service, "disinclined" (though they had considered it), or disinterested." Though only 33% were highly desirable in the overall group, 44% of those who were inclined to enter the Peace Corps were also highly desirable. Correspondingly, though only 15% of the total group were inclined to enter the Peace Corps, 19% of the highly desirable group were so inclined. By our own calculations a contingency test based on data from the nine possible combinations of inclination and desirability yields $\chi^2 = 9.47$ with four degrees of freedom, not quite the 9.49 value required for significance at the .05 level.

Attitudes of Black Students

Since only 4.5% of college students in the U.S. are black, the representative samples of college seniors described in L. Harris (1966b, 1968a) tell very little about special attitudes held by Blacks who are of the prime age group for Peace Corps service. To fill this gap, all 867 seniors in 35 randomly selected black colleges were questioned about factors which might influence their decisions to apply or not to apply for Peace Corps training (L.Harris, 1968b) and data from 73 black seniors in a larger study (L. Harris, 1969) were reported separately. In the discussion below, data on whites comes from L. Harris (1968a) unless otherwise stated. Only 9% of Blacks in black colleges, compared to 13% of white seniors, were seriously considering the Peace Corps; only 4% of Blacks in the later total college study, were doing so. The black-white difference is no doubt attributable in part to the regional origin of the students and social-economic background rather than to distinctively racial experiences alone. Southern colleges have consistently ranked next to Plains colleges in having the lowest percentages of seniors seriously considering the Peace Corps. However, we are interested in describing black-white differences, not explaining them, and therefore make no distinction between variables which may be fundamentally racial and those which are merely correlated with race. Black seniors in black colleges were, if anything, more generous than whites in their assessment of Peace Corps accomplishments abroad, giving 41% "excellent" ratings, 48% "pretty good," 10% "only fair," and 1% "poor." Corresponding percentages for Blacks in the general college sample were 23%, 48%, 23%, and 6%, not quite as favorable as for whites in 1969.

Two kinds of concerns seem associated with Blacks' hesitancy to enter the Peace Corps: (a) anxiety about career establishment, and (b) the feeling that there is so much of importance to be improved in the U.S. that Peace Corps service is a luxury item of low priority. With reference to (a), 68% of Blacks in the 1968 study were concerned about difficulties in finding a well-paid job, compared to 44% of whites; 93% of Blacks felt it very important to plan immediately for their future careers, compared to 72% of whites. Corresponding figures for Blacks seriously considering the Peace Corps are 40% and 72% respectively.

The statement that "there are enough serious problems facing Blacks in the United States and someone who is really concerned about helping others should be working against these problems here rather than going abroad with the Peace Corps," drew agreement from 68% of black seniors, 45% of black seniors seriously considering the Peace Corps, and 35% of white seniors in the 1968 studies, with 77% of blacks in the 1969 study subscribing to this statement also. The high value of the middle figure leads us to suspect, as data presented later in this article will confirm, that Black entrance into Peace Corps training will be even less than would be predicted from the number seriously considering it.

Population of Teachers, Nurses and Skilled Workers

Because of difficulties in recruiting adequate numbers of experienced skilled workers and, to a lesser degree, experienced secondary school teachers, and in consistency with a policy decision of 1969 to increase recruitment of skilled workers, the Peace Corps commissioned a study of factors influencing potential recruitment among 767 members of these two groups (Roper Research Associates, 1969). Since the South Atlantic and the East South Central census regions of the United States had yielded few Volunteers in previous years, those regions were not studied. Fifty interviewing locations outside those two regions were selected probabilistically, to represent the remainder of the nation both geographically and by size of location. Within these sampling units, interviewers were given quotas of various categories of teachers and workers to interview, using a standard questionnaire procedure. Conformity to quotas was good but not perfect because of the pressure to complete the report quickly.

Attitudes toward the Peace Corps were highly favorable - particularly among teachers. Before the interviewer had even mentioned the Peace Corps, one question asking what U.S. non-military foreign aid programs had been particularly effective yielded a "Peace Corps" response from 53% of the teachers and 29% of the skilled workers. Favorable comments about PC Volunteers exceeded unfavorable comments in frequency by over 10 to 1 among teachers and 7 to 1 among workers. Among teachers 19% felt that the Peace Corps had been highly successful, and 66% felt that on balance it had worked out pretty well. The corresponding numbers for workers were 12% and 50%.

One concern of the Roper study was the degree to which existing Peace Corps policies prevented service by teachers and skilled workers. By law not more than 4% of Volunteers can be persons with one or more children under 18 years of age, whereas 31% of teachers and 45% of workers studied in Roper's research did have such children. If a potential Volunteer is married but has no children under 18, his spouse must also have a skill and become a Volunteer, a requirement not satisfiable for 6% of teachers and 14% of workers studied. Finally, 13% of the teachers and 10% of the workers were not qualified medically because they had a health condition which required a doctor's regular attention.

In addition to conflicts between Peace Corps standards for Volunteers and the teachers' and workers' own circumstances, interviewees were asked about a variety of possible drawbacks in Peace Corps service. The major problem was financial, with 39% of teachers and 44% of workers saying that long-term financial obligations such as home mortgages or their children's college education were a major deterrent or would make Peace Corps service impossible. Concern was expressed by about one-fourth of each group about having their old position available and seniority rights protected on return from the Peace Corps. The need to learn a foreign language was seen as a critical deterrent by 12% of the teachers and 20% of the workers.

Table 3-1 summarizes most of the categories of teachers and workers interviewed, as well as showing the percentages in each category who definitely would consider or probably would consider service as a Peace Corps Volunteer if some or all of their suggested changes in Peace Corps requirements and opportunities were made.

Insert Table 3-1 about here

Teachers were more ready to consider service than workers; single persons more likely than married persons (particularly later, after the latter had talked the question over with their spouses); and males more likely than females. This study failed to assess the willingness of single teachers and workers to join the Peace Corps prior to any changes in policy. The requirements which potential Volunteers set forth as necessary before they would consider serving are not reported separately for single and married people, making it impossible to tell whether a recruiting program directed to single, but experienced, secondary public school teachers and skilled workers could be successful without making financial concessions and other changes which would clearly be necessary with married Volunteers.

Fortunately another Peace Corps-sponsored study conducted at about the same time provides somewhat comparable data for the situation without changes in Peace Corps policy: Of 39 teachers studied, 18% were interested in serving even without such changes; of 27 nurses, 15% were interested; of 159 construction workers, heavy equipment workers, repairmen, carpenters, artisans, or farmers, 10% were interested; making an overall 12% interested (Forera Corporation, ca. 1969, Table 31). The same table shows a higher percentage of single persons (19%) than married (9%) to be interested, with the very small samplings of divorced and widowed persons having higher percentages of interested persons than either the single or married people. Comparison with Table 3-1 shows that the percentage of persons interested in Peace Corps service without changes in Peace Corps policy generally exceeds the percentages definitely interested, given policy changes, but is less than

Table 3-1

Willingness to Consider Volunteering for the Peace Corps

(Parenthesized numbers represent percentages remaining in a category after consultation with one's spouse about the matter.)

(This table is based on information from Roper Research Associates, 1969, p. 63. Reproduced by permission.)

Marital Status and Distance from Retirement

		More than Five Years from Retirement Age							Within Five Years of Retirement Age		
	Total	Total Males	Single Males	Married Males with Children: Total	Married Males with Children	Married Males Without Children	Single Females	Married Females	Total	Male	Female
Teachers - Number	767	406	153	253	187	66	169	46	192	86	106
% Definite	9	13	13	13 (12)	14	12	7	2	2	3	2
% Probable	25	29	31	27 (17)	27	28	27	17	15	19	11
Workers - Number	496	496	134	362	249	111					
% Definite	3	3	4	2 (2)	2	3					
% Probable	17	17	20	17 (9)	18	14					

the combined percentages for "definite" and "probable" consideration of such service, given policy changes.

If the spouse were not required to become a Volunteer also, the percentage of persons interested, according to the Forera study, would increase to 15%. None of this increase is attributable to teachers, but most other occupational groups studied showed an increase. Also married people increased from 9 to 14% in the percentage expressing interest (Forera Corporation, ca. 1969, Table 37). The privilege of bringing children overseas was an even greater incentive, with 24% of all those interviewed indicating interest in Peace Corps service under that condition. Among teachers, 38% were then interested; only heavy equipment operators (14%), artisans (14%), and farmers (4%) fell below the overall average. The proportion of married people interested was 21% compared to 30% for single people (Forera Corporation, ca. 1969, Table 38).

Financial considerations also were found important in this study (Forera Corporation, ca. 1969, Table 29): Fifty-seven percent of those interviewed thought that the $1,800 cash paid (in addition to his monthly living allowance) to a Volunteer when he completed service was too small. Age and marital status had little effect on this judgment, but people with dependents slightly more often (46%) found the amount inadequate than people without dependents (38% said inadequate). Only 33% of nurses judged it inadequate; all other occupational groups had percentages exceeding 50 saying it was inadequate. The 16 Blacks, 1 Indian, and 7 Mexican-Americans studied were more convinced of its adequacy than the remainder of the sample; but the number of members of the former ethnic groups is too small to place great confidence in ethnic comparisons.

Wrobel (ca.1967) had indicated that one reason for a shortage of technical Volunteers as late as the end of fiscal year 1967 (ending June 30, 1967) was that a higher proportion of college graduate applicants received invitations to PC training than of farmers or others with technical skills. Only 9% of applicants with agriculture background were invited, and only 11% of those with other technical skills were invited; precise comparison figures were not given forcollege degree backgrounds, We are not told why the invitation rate for agricultural and technical applicants was low.Bu it was reported that 84% of all invitations went to that group. ∧ we are told tha half the persons rejected from agriculture or with other technical skills were judged not to possess the skill claimed by the applicant. If this judgment should prove based on too strict a standard of skill, a very large number of potential Volunteers would become available again. Furthermore, Wrobel reports that non-college graduate applicants were more likely (by 4.3%) to accept Peace Corps invitations to training than were college graduates or persons who would be college graduates by the time they entered training. This again suggests advantages to be gained by increasing the invitation of non-college graduates, provided they can do jobs as important as those of A.B. generalists and do them as well.

Attitudes Toward the Peace Corps in Other Groups

Further information about potential Peace Corps applicants comes from a nationwide study of senior high school students (Blumenfeld, Franklin, & Remmers, 1962) and a small scale comparison of interest in the Peace Corps and world-mindedness among introductory psychology students (Himelstein, 1969). Blumenfeld et al. obtained a stratified, representative national sample of 2,000 students in 1962, with 61% saying that they thought the Peace Corps was desirable (in an earlier, August 1961, poll) and 58% giving that reply in May 1962. Another 26% leaned in the same, favorable direction in 1961 and another 34% leaned in that direction in 1962. In each poll at least 62% favored or leaned toward favoring exemption from the draft for Peace Corps Volunteers, a position increasingly taken by college seniors also (Harris, 1969, p. 78), who evidently came to think of Peace Corps service as a means of delaying military service in Vietnam in addition to other considerations. Blumenfeld et al. also found 37% of their sample in 1961 saying that they would or probably would be interested in volunteering for the Peace Corps when they had finished their education, with only 32% giving this response in May 1962. If we equate this degree of interest in the Peace Corps to the categories of Serious Consideration and Some Consideration previously mentioned in connection with college seniors, it appears that the latter groups were giving around 50% favorable responses (Harris, 1966b, 1968a, 1969) a few years later when this high school group might have had the chance to take the Peace Corps quite seriously. These data give some indication that either (1) interest in the Peace Corps increased from high school to college because of changes in public opinion in general in that time period or because of college experience; or (2) that the group of high school seniors going on to college may have had greater interest in the Peace Corps than the average of high school seniors. This is a very risky inference problem because of differences between the studies of the two age groups. However, the second option seems plausible because of the fact that colleges have historically been the prime source of applicants.

Himelstein (1969) hypothesized that a positive correlation would appear between degree of interest in volunteering for the Peace Corps and score on the Sampson and Smith Worldmindedness Scale. Significant trends ($p < .05$ or better) of this sort were obtained on six (Religion, Immigration, Government, Patriotism, Race, and Education) out of eight subscales of the Worldmindedness Scale, with the two exceptions (Economics and War) also showing trends in the proper direction. Himelstein concludes that "college students interested in the PC tend to be idealistic, unselfish individuals concerned with service to developing nations."

Studies of Recruiting for the Peace Corps

Nash and Nash (1966a, 1966b) have reported comprehensive data on Peace Corps recruiting of college students in the year ending June 30, 1965. Table 3-2 reports the overall degree of success of this recruiting program. Approximately

Insert Table 3-2 about here

one student or former student for every 150 registered in an accredited four-year college in the United States applied for Peace Corps training that year. For every man-day spent recruiting on campus, on the average, more than two students (or former students) applied. Thirty-five percent of all applicants from colleges or universities were invited to enter Peace Corps training, and somewhat more than half of those invited did accept.

Table 3-2

Results of Peace Corps Recruiting Program for Year Ending June 30, 1965

(Based on Nash & Nash, 1966a, except for last line, from Committee on Foreign Affairs report, 1970, p. 7. Reproduced by permission.)

Number of Accredited 4-Year Colleges and Universities in U.S.	945
Number of Students in These Institutions	3,393,800
Number of Applications from These Students	23,176
Number of Invitations to These Applicants	about 8,111
Number of Invitations Accepted	4,162
Number of Man-Days Spent in Recruiting on Campuses	10,946
Number of Other Applications During the Year	19,463
Number of Trainees on June 30, 1965	4,624

Table 3-2 supports earlier indications from Wrobel (ca. 1967) that the Peace Corps, at least before 1969, preferred applicants from college. The 19,463 "other applications" constituted about 45% of the total in the 1965 data being considered, and included 2,359 students or former students from junior colleges or other collegiate institutions not on the basic list under consideration. In addition these "other applications" included an unknown number of persons over 30 who had attended college but for whom college background was not tallied in this study. Yet the number of Trainees on June 30, 1965 is very little larger than the number of invitations accepted by students or former students of the 945 accredited institutions being studied.

Mere subtraction of number-of-college-students-accepting-training-invitations from number of Trainees underestimates the input from other sources in at least two or three ways: (a) Some persons accepting invitations nonetheless change their minds and do not enter training; (b) Nash and Nash tallied applications, invitations and acceptances up to August 8 rather than June 30, and (c) possibly not all summer training programs were in operation by June 30, meaning that the total Trainees for the year were larger in number than Table 2 suggests. Nonetheless it appears that an applicant's chances of entering Peace Corps training were much greater if he had attended an accredited 4-year college than if not.

Nash and Nash were particularly eager to determine which colleges and universities and which types of them produced the highest absolute and relative numbers of applications or Trainees. One aspect of their investigation related quality of the institution to Peace Corps input. Each college was assigned a Quality index number of from 1 to 50 based on its relative standing on five characteristics - the proportion of faculty holding doctorates, the faculty-student ratio, the total institutional income per student, the number of library volumes per student, and the total number of volumes in the library. (The last item appears to introduce a bias in favor of large institutions since it is not scaled per capita as in the very similar fourth item.) High scores meant high quality by this definition; low scores meant low quality. Peace Corps input was either measured by single items such as number of applications or by a composite score, the Peace Corps Index, based on number of applications, number of invitees per 1,000 applications, and the percentage of applicants accepting. When the two composite indices were compared across the 945 colleges studied, a correlation of .37 was obtained. Thus quality was noticeably though by no means perfectly related to Peace Corps input. As might be expected, size of college was predictive of total number recruited, with the correlation between size and number of applications being .80.

In view of earlier indications of difficulty in recruiting Blacks as Peace Corps Volunteers, it is worth noting that Nash and Nash reported that the positive relation between Quality Index and the Peace Corps Index found for all accredited four-year colleges was also found for black colleges alone. We shall see evidence shortly that Peace Corps recruiting was more effective in certain types of institutions, geographic regions, and economic milieus than others. We may suspect, subject to experimental confirmation or disproof, that improving the quality of black colleges or varying their geographic and economic environments might have as much potential for increasing the number of black Volunteers as changes in recruiting procedure.

Table 3-3 shows how the number of persons accepting invitations to Peace Corps training (abbreviated as No. Accepts in the table) is related to the type of institution, relative number of students in that type of institution, and percentage of recruiting time spent in that type of institution. There was a general trend for types of institutions with large numbers of students (e.g., public universities) to produce larger numbers of acceptances than types of institutions with small proportions of the total national student population (e.g., Catholic women's colleges). However, the last column of Table 3-3 shows that the relative contribution of some types of colleges with low proportions of the nation's students was high, with non-sectarian private colleges producing about two and one-half times as high a proportion of their students to the Peace Corps as did public universities. A comparison of the other columns of the table shows fairly close correspondence between percentage of all acceptances for Peace Corps training in a given type of institution and percentage of recruiting effort given in that type of institution. One might argue that, though recruiting effort was roughly proportional to number of students in a category, too much time was spent in recruiting on campuses of non-sectarian private universities and teacher colleges, but too little at Protestant universities and colleges and at non-sectarian colleges, since there are discrepancies between recruiting

Insert Table 3-3 about here

Table 3-3

A Comparison of Different Types of Institutions of Higher Education as Sources of Future Peace Corps Trainees
Reproduced by permission.)
p. 14A,
(Data from/p. 14B and p. 35E of Nash & Nash, 1966a in 1965 Recruiting Program./

Type of Institution	% of All Students	% of All Accepts	% of All Man-Days Recruiting	No. Accepts per 1000 Undergraduates
Public Universities	39.6	41	42	1.1
Non-Sectarian Private Universities	13.3	13	17	1.2
Teachers Colleges	10.3	6	9	.6
Protestant Universities and Colleges	10.0	12	6	1.1
Public Colleges	7.0	6	7	.9
Catholic Universities and Men's Colleges	6.8	9	9	1.8
Professional and Technical Colleges	4.8	3	4	.7
Non-Sectarian Private Colleges	3.1	7	2	2.7
Catholic Women's Colleges	1.8	2	1	1.5
Other	3.3	1	3	.6
Total or Average	100	100	100	1.3

effort and number of acceptances. However, this is to infer causation from correlation; it seems appropriate to note the discrepancies and consider this hypothesis about the efficiency of recruiting assignments in different types of schools, but not to assert it with conviction.

Among regions of the country, the West has deservedly earned a reputation as having colleges and universities which produce Peace Corps applicants and Volunteers beyond any quota based on number of students.

Insert Table 3-4 about here

The third column of Table 3-4 verifies this claim for applications. Note, however, that the Northeast, having the highest percentage of all students, leads all other regions in percentage of all Peace Corps applications. Nash and Nash (1966a, pp. 44-58) explain regional differences such as those of Table 4 as correlates of per capita income and degree of urbanization in the states composing each region. They show that regions producing high numbers of Peace Corps applicants have more colleges in high per capita income states than in low per capita income states. The reverse holds for regions producing low numbers of Peace Corps applicants. They also show a positive relation between number of applicants per college and rank of state in per capita income or percent of residents living in urban areas. These comparisons would be meaningful if we could be sure that the mean number of students per college was approximately constant from state to state.

These data regarding regional and economic predictors of application rates are mirrored in data for actual numbers of Volunteers and Trainees.

Table 3-4

Relative Numbers of Peace Corps Applications from Colleges and Universities in Different Geographical Regions During 1965 Recruiting Program

(Reported from or calculated from Table 7 from Nash & Nash, 1966a. Reproduced by permission.)

Region	% of All Students	% of All Applications	Ratio of Second Column Entry to First Column Entry
Northeast	26	25	.96
Midwest	21	22	1.05
West	14	20	1.43
Plains	19	18	.95
South	20	14	.70

Hobbs (1963, p. 50) early reported a relative shortage of Volunteers from the South, noting, "The correlation between number of Volunteers from a state and the per capita expenditure for public education in that state is .54." The Peace Corps statistical summaries listed in the reference section of this book also report state by state variations in per capita production of Volunteers and Trainees.

In a different sort of recruiting study, Roy (1967a) has reported questionnaire data from 75 Peace Corps recruiters out of 104 serving in Fall 1966; all of them having been asked to respond to such questions as how important different factors were to a successful recruiting visit at a college or university. The percentages of "very important" ratings on this question were specially high for discussions at a Peace Corps recruiting booth (85%); classroom presentations (52%); and lead stories in the campus newspaper (64%); with much lower ratings being given to such items as presentations in dorms, fraternities, sororities, etc., or radio or television interviews. Recruiters were most confident of their own distinguished performance in the discussions at recruiting booths. In other areas they considered themselves satisfactory, on the whole. They wanted more emphasis on year-round PC support groups and on lead stories in campus papers. Forty percent or more of them recommended improved quality of these items: Posters, special events such as panels or movies, and classroom presentations. The four categories of questions from students which were most frequently reported are: "What about draft exemptions and/or deferments for Peace Corps service?" (57%); "Can I choose my Peace Corps assignment?" (44%); "What are living conditions in the host country like?" (33%); and "Where were you? What did you do? What was it really like? Did you enjoy being a Volunteer?" (28%). In view of the importance of the draft question to students, it is interesting that this group of recruiters were undecided as to the effect of the draft upon recruitment, with 24% thinking it impaired recruitment, 21% thinking it aided recruitment, 25% thinking the net effect was about zero, and the others having opinions with similar balance.

Recruiter morale in the study just discussed was apparently high, with a third of them saying the morale in their region was "very good" and another third saying it was "good." Their ratings of their regional directors were "good" or "excellent" in 82% of the cases, and they were favorably impressed by the work of their fellow recruiters. A semester later, however, in a similar study (Roy, 1967b) with 27 respondents out of 63 sampled, less than a third said their morale was "good," with 64% saying they were either "less" or "much less" enthusiastic about their jobs than in the previous fall. One reason for low morale seemed to be that most Peace Corps applicants were found during the fall rather than the spring. A second was that recruiters became exhausted by their travels and should either have been replaced in the spring or given a longer rest between fall and spring campaigns. Roy (1967b) found recruiters observing much the same problem of the Peace Corps suffering from negative feelings toward the U.S. Government as reported by Harris (1969) and by J. McDonald (1968). One further trend feared by some recruiters was decreased cooperation by university administrators because of opposition of students to recruiting visits by more controversial employers, leading to de-emphasis of all recruiting.

Application Stage

General College Population

Harris (1966b) also included interviews with 244 Peace Corps applicants in 73 colleges in his survey of a sample of 1,022 college seniors from 50 randomly selected colleges. How representative these individuals were of the applicant population was admittedly not known. The Peace Corps had supplied Harris with the names, but their method of choice was apparently not reported to him. A number of items appear to be relevant to the matter of self-selection at this stage. What were the characteristics of those who applied as compared to the random sample of college seniors?

Compared to the total group interviewed, a higher percentage of applicants[2] stated (a) that the Peace Corps was helping our international reputation (18% vs. 51%); (b) they were liberals (64% to 40%); (c) they would participate actively in various causes or issues; (d) Peace Corps was doing an excellent job; (e) it was difficult to decide what to do after college (66% to 42%) ; (f) as a next step after graduation they had considered graduate school as well as VISTA; (g) an important personal gain they could derive from the Peace Corps was to achieve more self-confidence (30% to 13%) and to improve career prospects (17% to 6%); (h) that one of the main reasons they hesitated to join the Peace Corps was the length of service (30% to 17%); (i) Peace Corps service is helpful to a future career (87% to 64%); (j) important considerations for joining were travel and new experience (64% to 49%).

Compared to the total group, a lower proportion of applicants stated

(a) that our nation has made much progress on a variety of major domestic and international problems; (b) it is very important to plan immediately on a career (38% to 72%); (c) as a next step after graduation they had considered going into a career in business (14% to 34%) or teaching grade school (26% to 40%); (d) that the main reasons they would hesitate to join the Peace Corps were the low pay (10% to 19%), eagerness to start a career (26% to 59%), and a desire to get married (10% to 25%).

Compared to the total group, about the same proportion of applicants stated (a) that major strides will be made in major domestic and international problem areas (percentage varied with the area, from 14% to 85%); (b) they were concerned about getting a good paying job (44%); (c) as a next step after graduation they had considered social work (16%); (d) an important personal gain to be derived from joining the Peace Corps was a chance to help others (37% total, slightly less for applicants); (e) important considerations in joining the Peace Corps would be the chance to help people (77%) and serve one's country (35%).

To summarize, applicants appeared to be politically liberal and activist, desirous of a moratorium before deciding on and starting a career, hesitant about spending as long a period as two years in the Peace Corps, but feeling that the Peace Corps would provide an opportunity to improve career prospects and for travel, new experience and building self-confidence while identifying with an important and constructive organization.

Applicants from Black Southern Colleges and Universities

Zeller, Foster, Hammer, Murphy, Pettaway and Rutkosky (1968) reported that applicants from black Southern colleges and universities numbered 510 (1.21% of all applicants) in 1965; 918 (2.11%) in 1966; 1,309 (3.38%) in 1967; and 391 (1.40%) in 1968 up to June.

Zeller et al. (1968) have provided comparative data on four types of action taken during this stage, for black Southern college and university applicants, compared to applicants in general (called controls). Table 3-5 summarizes that information.

Insert Table 3-5 about here

Proportionately fewer black applicants withdraw before invitation; about the same proportion are rejected; substantially more black applicants fail to respond to requests for more information before decision; and about the same proportion are ineligible for being under 18 years of age or similar, largely statutory reasons, compared with control data.

Invitation

Zeller et al. (1968) found that of all applicants from black Southern universities and colleges in 1967, 40.3% were invited to enter PC training, of whom 18.6% accepted, 38.1% declined, and 39.0% failed to respond. Comparable figures for all applicants were 51.0%, 44.6%, 41.1%, and 7.1%. (No explanation is given as to why the last three percentages in each group of four fail to add to 100 as expected.) These trends for lower invitation rates to these black institutions, lower acceptance rates, approximately equal declination rates, and much more frequent failures to respond were also observed in 1965 and 1966.

The Peace Corps has made a conscious effort to increase the absolute

Table 3-5

Relative Incidence (Percentages) of Various Sources of Pre-Invitation Loss of Applicants from Black Southern Colleges and Control Studies (From Zeller et al., 1968).

Source	1965		1966		1967	
	Black	Control	Black	Control	Black	Control
Withdrawal of application	7.3	11.1	3.3	7.0	3.4	4.8
Rejection by PC	9.0	8.7	6.3	5.5	6.0	8.5
No response to request for further information	43.7	28.5	37.2	30.0	35.5	19.0
Judged ineligible	2.6	2.2	1.0	2.5	0.7	2.4

number and proportion of black applicants actually invited to enter training. This effort, described in some detail in Zeller et al., included flexibility in the permissible MLAT scores for black applicants. No precise formula was applied, but in 1967 the mean MLAT score from black Southern schools was 43, compared to 53 for all applicants; the corresponding means for invitees were 44 and 58.

In his April 9, 1970 testimony before the House Committee on Foreign Affairs, Peace Corps Director Joseph H. Blatchford reported active attempts to increase recruitment in black colleges in the South, with the result that applications from them were up 90% compared to the previous year (Committee on Foreign Affairs, 1970, p. 36). There is little evidence about increases in actual numbers of black Volunteers, but a year later the Peace Corps was very enthusiastic about a new internship program instituted at Texas Southern University, in which Peace Corps training and service received college credit (Peace Corps, Office of the Director, 1971). Increased efforts have also been made to recruit Chicano Volunteers. Very few records on the ethnic background of Volunteers have been kept. In June 1971 there were only 125 black Volunteers overseas (between 1 and 2 percent of the Volunteer cadre) and only 58 from Spanish backgrounds (Committee on Appropriations, Senate, 1971, pp. 267-268). In February 1974 there were 310 minority Volunteers (about 4 percent of the total) overseas, but no listing by separate ethnic groups was reported (Committee on Foreign Affairs, 1974, p. 49).

Recent Applications as a Function of Skill Group

Having seen earlier that the Peace Corps decided in 1969 to attempt to recruit a higher proportion of specialists among its applicants and ultimately among its Volunteers, we now find evidence that this goal is being met at the applicant level. The Peace Corps report at the 1971 Foreign Assistance hearings of the

Committee on Appropriations of the U. S. Senate (1971, p. 253) shows that applications by skilled tradesmen increased from 2% of the total applications in the 1969 program year (September through August) to 4.8% in 1970 and 6.1% in the first nine months of the 1971 program year. Applicants with experierce in agriculture changed from 6.3% to 7.9% to 7.7% in the same period. Professionals showed some increase, from 13.6% to 14.0% to 16.5%; trained teachers held approximately constant; and generalists dropped from 60.0% to 54.5% to 50.3%. This suggests, and Chapter 6 data will confirm, that the Peace Corps is indeed becoming somewhat more technical in orientation than in previous years.

A Comparison of Applicants Specially Recruited for Micronesian Service and Regular Peace Corps Applicants

Lou Harris and his associates (1966a) have studied 161 applicants for service in Micronesia recruited in May and June 1966 as compared to 158 regular applicants in those months, with retrospective looks at earlier groups of college seniors and applicants. The reason for this investigation was the need to determine whether the type of applicant obtained was different for Micronesia, for which an extensive recruitment program was used, than for other areas not involving special recruiting. The decision to provide 500 Volunteers for Micronesia, a U. S. -administered trust territory, was made so late that normal recruiting for 1966 training had almost finished. Therefore, for the first time, a large-scale recruiting project for a single area was conducted. The Harris study tells us that applicants for Micronesia proved to be very similar to earlier applicants, having less career concern than college seniors in general, having a more activist orientation, and being more favorable to the Peace Corps. Compared with earlier groups, the Micronesian applicants were slightly more concerned about their careers and less activist. Applicants for Micronesia were much like the regular applicants of the same period but were called a little "paler" by the investigators, suggesting that the special recruitment process selected slightly less committed applicants or slightly more typical college seniors than normal recruiting.

The applicants for Micronesian service, of whom 74% of those studied were men, were intermediate in their approach to the problem of what to do after college; 54% of them found the decision difficult, compared to 61% of the regular applicants of that period and 42% of seniors in general. The most prominent option considered in each group was graduate school, which received serious attention from 75% of applicants for Micronesia, 71% of regular applicants and previous applicants studied by L. Harris, and 70% of all college seniors studied. Harris suggests that methods of cooperation between the Peace Corps and graduate schools may be useful to both kinds of institutions.

A special feature of this report is its comparison of the appealing and detrimental aspects of Peace Corps service in Micronesia, Brazil, and India, as envisioned by regular applicants and those applying for Micronesian service.

Compared to regular applicants, applicants for Micronesia envisioned Micronesia as having the special attractions of: (a) a tropical climate

(53% of the Micronesia applicants found this alluring, but only 29% of the regular applicants); (b) island living (22% to 4%); (c) friendly people (17% to 4%); (d) being a place one might never get to see except with the Peace Corps (9% to 3%); (e) having its first Peace Corps unit there at the time of recruitment (9% to 1%); and (f) the job itself (9% to 2%).

In comparison with the applicants' vision of Brazil and India, all the above-named features were imagined by the applicants to be more characteristic of Micronesia. However, 16% of applicants for Micronesia and 7% of the regular applicants envisioned Brazil as being noted for its friendly people. A variety of job-related attractions were associated with India by 27% of applicants for Micronesia and 18% of the regular applicants, while 18% of the former and 17% of the latter felt that such job-related attractions would be found in Brazil.

Twenty-nine percent of the Micronesia applicants and 35% of the regular applicants envisaged India as exciting and romantic; while 20% and 12% of the applicants, respectively, associated Brazil with romance and excitement. Although 11% of Micronesia applicants were attracted by the prospect of learning about the people of Micronesia, this was appealing to only 1% of the regular applicants. A related appeal, learning about the culture of the country, was strongest for India (44% of Micronesia applicants and 51% of regular applicants) and moderate for Brazil (24% of Micronesia applicants and 9% of regular applicants). No mention of learning about the culture of Micronesia per se was made. A desire to learn the national language was a favorable factor for Brazil in the case of 18% of applicants for Micronesian assignment and 9% of regular applicants. Corresponding percentages of persons attracted to Brazil because of its conceived potential were 16 and 18.

These data suggest that applicants for assignment in Micronesia tended to value the favorably conceived characteristics of that territory more highly than regular applicants. In other respects the favorable characteristics of the three countries seemed to conform to the stereotypes of the areas, preventing grossly unrealistic valences toward any country or territory. Corresponding data on negative features of the three areas are most noteworthy for their indication that persons actually applying for a Micronesian assignment emphasized negative considerations more strongly than did regular applicants.

Studies of Declined Invitations to Peace Corps Training

There are three studies bearing on the negative self-selection that occurs with those declining the invitation to report to training. Findings from an interview survey (Seashore & Bowers, 1963) conducted during September, 1963 of 151 acceptors and 149 decliners of invitations to train suggested that decliners were not significantly different from acceptors in those variables which might be related to success in the Peace Corps, such as age, amount of education, family relations in childhood, needs for independence, achievement, affiliation, failure-avoidance, and self-esteem. What did differentiate the decliners was that they were more apt to have jobs, especially career-related work, as well as dependents and debts, so that it was more difficult for them to disrupt their activities in order to join the Peace Corps. Furthermore, decliners received their invitations an average of four weeks later than acceptors,

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giving cause for fears of having not been approved for Peace Corps training and leaving more time to make conflicting commitments.

The data of L. Harris (1966b) tend to corroborate the findings of Seashore and Bowers (1963) that decliners and acceptors were essentially similar except for the need of the former to get on with direct career-related activities. Harris found that decliners are similar to acceptors in political philosophy, rating of the effectiveness of the Peace Corps and the usefulness of service in the Corps to career prospects, and in the percentage reporting a disinterest in business careers. In both groups parents and professors had recommended the Peace Corps and friends had joined.

Harris interpreted his data to indicate that many declined because they felt that the Peace Corps would not further their career prospects. But apparently their key conflict was that, although they were having difficulty in deciding on what career to follow, they felt a strong need to continue with education in order to get started on a career as soon as possible or as soon as they completed their military obligations.

Wrobel (ca. 1967) reported that the rate of declination of invitations to PC training increased to 56% in the summer of 1967. In the summer of 1967 specific training projects in preparation for service in Africa were noticeably more likely to have declination rates of 51% ("high") and above, than those from other regions. Agricultural and educational programs were also likely to have "high" declination rates, with health-related programs being more likely to have "low" rates, 50% declination or less, a surprising fact in view of evidence in Chapter 7 of low morale among health workers in the Peace Corps. Wrobel mentions a 1965 study, presumably conducted within the Peace Corps establishment and not given a formal title, which showed for 3,870 invitees that the difference in declination rate between invitees whose job preferences were violated and those for whom these preferences were honored was 10% in the logically expected direction. Similarly, there was a 9% increase in declination rate when regional preferences were violated, as compared to when they were honored. As noted earlier in our discussion of recruiting for special skills, the declination rate for non-college graduate invitees in fiscal year 1967 was 4.3% below that for other invitees.

Wrobel also found evidence for lower declination rates in special recruiting programs with specially attractive inserts to invitation letters, or a tranquil political situation in the host country or special attractions in that country.

Characteristics of Trainees

Guthrie and McKendry (1963) assessed the adjustment, interests and attitudes of 331 Peace Corps Trainees preparing for teaching assignments in the Philippines by use of the MMPI, Strong Vocational Inventory Blank (SVIB), Study of Values, and a specially devised Q-sort, i.e., a set of items on motivations for joining the Peace Corps, to be sorted (and thus evaluated) by each Trainee. The Trainees were, on the average, relatively free of anxiety symptoms; had interests most like those in social service occupations and least like those in science, sales or business; and were motivated to join the Peace Corps on the basis of intellectual curiosity, patriotism, and altruism. Few women manifested interests similar to those of teachers in any subject area, suggesting that they would not attain primary satisfaction from teaching per se. The authors concluded that many

Trainees present a pattern of interests for which only a limited number of satisfying career opportunities exist in our society, since many social service occupations are accorded relatively lower status.

L. Gordon (1966) compared 103 male and 68 female Peace Corps Trainees with samples of over 700 male and 700 female college students on Gordon's Survey of Personal (and Interpersonal) Values. The Trainees, both male and female, placed less value on Being Treated with Kindness and Understanding, Conforming to Social Conventions, Being Important, Orderliness, and Material Gain. They placed more value on Service to Others, Decisiveness, Having New Experiences, and Achievement. In addition, the women Trainees placed greater value than their college counterparts on Being Independent and In a Position of Leadership or Authority. Another study by Gordon (1967b) compared Survey of Interpersonal Values scores and factor analysis scores (principal components method) based on the so-called Q technique for a variety of samples, including male and female college and high school students tested in Hong Kong, Taiwan, India, Japan, the Philippines, Samoa, and the U.S., in addition to male criminals in the U.S., male U.S. military personnel, and male Peace Corps Trainees, among others. The Peace Corps Trainees, first-year UCLA medical students, male high school teachers, and conscientious objectors all showed factor loadings near unity on a Service to Others factor. Correlations across six separate scales of the survey (Support, Conformity, Recognition, Independence, Benevolence, and Leadership) showed relatively high positive relationships between Peace Corps Trainees' scores on these scales and those of oriental samples. The closest relationship was between Chinese and Indian male college students and Peace Corps Trainees, due in part to high Service to Others scores in all three groups. See L. Gordon (1969) for data closely related to the study just cited.

More recently, L. Gordon (1970) has provided evidence that 46 male and 20 female Peace Corps Volunteers averaged lower than other groups in scores of acceptance of bureaucratic values, such as those rewarded in industrial, governmental, military, and school organizations. The scale employed, the Work Environment Preference Schedule, gave highest mean total scores to a group of female long-term residents in a Veterans' Administration domiciliary, next highest to a group of male long-term residents in the same establishment, next to 91 male students receiving training for a trade, next to female college students in education, next to male college students in the field of education, and next to female college health nurses, with male Peace Corps Volunteers being slightly higher than the bottom ranked female Volunteers.

Perloff and Gillmer (1964) have reported that non-white, older, and female Trainees were significantly more authoritarian, as measured by the Levinson F-Scale, than other Trainees.

Table 3-6 presents certain demographic data which have appeared more or less periodically in Peace Corps statistical summaries. This table shows that there

Insert Table 3-6 about here

have always been more male Volunteers and Trainees than females, the percentage of males having a low of 59.0 in 1965 and a high of 70.6 in 1970. Mean age of Volunteers and Trainees has been more stable, ranging from 23.6 years in 1967 to 26.1 in 1963. (Mean age of female Volunteers and Trainees tends to be slightly higher than for males, perhaps a year to

Table 3-6

Sex, Mean Age, and Educational Attainment of Peace Corps Volunteers and Trainees at Different Stages of Peace Corps History

(Based on Peace Corps Quarterly and Bi-Annual Statistical Summaries relevant to June 30 of each year except as noted).

	Year										
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1973
Number of Persons	2,816	6,554	10,078	13,248	15,556	14,968	13,823	12,131	9,513	8,398	7,354
Percent Males	63.2	61.6 (Sept.)	61.4	59.0	60.6	62.6	65.1	66.9	70.6 (Dec.)	68.7	64.6
Mean Age	25[a] (Dec.)	24.9	24.0 (Dec.)	23.9 (Dec.)	23.7	23.6	24.2	24.1	25.2 (Dec.)	25.7	27.2
Percent with Bachelor's Degree of Higher	70.6 (Dec.)	75.0 (Sept.)	83.0 (Dec.)	84.1 (Dec.)	77.8	77.7	84.4	87.8	85.6	77.3	84.6 (Dec)

[a] Decimal fraction unknown

a year and one-half higher.) Two relatively high mean ages in 1970 and 1971 may reflect the Peace Corps' new policy to emphasize recruitment of persons with specialized skills. This policy may also have influenced the percentage of Volunteers and Trainees with bachelor's degree or higher, which dropped slightly in 1970 and more substantially in 1971 from its high of 87.8%. However, current proportions of college graduates are still above the 70.4% observed near the beginning of Peace Corps activity.

In a study somewhat like Stein's (1966) more extensive research, Sanborn and Maretzki (1963) have attempted to relate Riesman's (1961) typology of social character to characteristics and attitudes of Peace Corps Trainees. No substantial differences were found between 48 inner-oriented, 32 tradition-oriented, and 42 other-oriented Trainees with respect to California Psychological Inventory scores. However, there were a larger percentage of inner-oriented Trainees from communities of under 100,000 and a lower percentage of other-oriented Trainees from such communities than chance assignment would seem to predict. There also appeared to be a tendency for inner-oriented Trainees to have fathers from managerial and sales groups, tradition-oriented Trainees to have fathers with "blue collar" jobs, and other-oriented Trainees to have fathers from supervisory and professional groups. With respect to goals for their Peace Corps service, 42% of inner- and 36% of other-oriented and tradition-oriented Trainees emphasized achievement of results (doing projects, teaching, and general service). Another 36% of the other-oriented Trainees aimed primarily for self-improvement, as did 25% of inner- and 21% of tradition-oriented Trainees. Better understanding was the primary goal of 43% of tradition- 33% of inner- , and 28% of other-oriented Trainees. Though tests of statistical significance were not reported, the foregoing data and other attitudinal data reported seem to indicate different backgrounds and attitudes of the three groups of persons, classified by orientation after discussion among three observers who knew them well.

Stern, Cohen, and Redleaf (1966, Table 8) have provided mean factor scores on 12 Activities Index factors for 1,530 men and 950 women in 61 Peace Corps training units of 1963-64, together with comparison data from 558 men and 518 women in 32 colleges. Figure 3-1 presents those means. The directionality of sex differences observed in the norm group of college students is preserved with Peace Corps personnel for every factor except Friendliness, for which essentially zero sex differences are observed in the Peace Corps Trainees. Though significance tests have not been reported, it appears that Peace Corps groups have higher population means than college groups on Self-Assertion, Intellectual Interests, Motivation, Submissiveness, Closeness (males only), and Expressiveness (males only). Peace Corps Trainees appear to have lower population means than college students on Applied Interests, (males only), Orderliness, Sensuousness, and Egoism-Diffidence. (In the case of factor names listing opposed traits, high scores indicate dominance of the first-named trait.) Later Peace Corps training groups have shown lower means on most factors, however. Stern, Richman, and Ashley (1967, Figs. 8 and 15) have reported on male Trainees from 19 programs in 1966 and 9 in 1967 and on female Trainees from 13 programs in 1966 and 6 in

Insert Fig. 3-1 about here

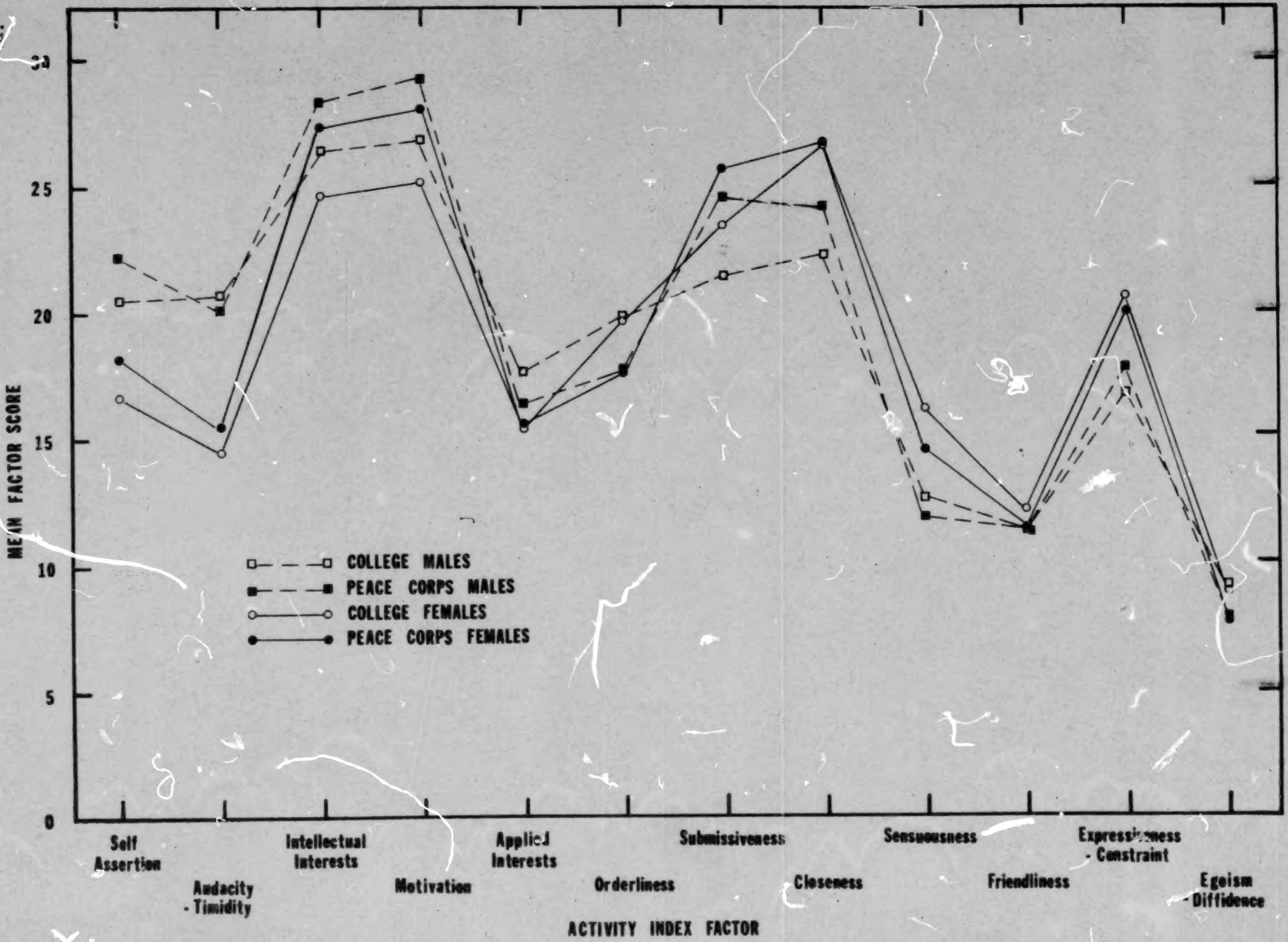

Fig. 3-1. Mean scores on 12 Activity Index factors for norm groups of 558 college men and 518 college women, compared to corresponding means for 1,530 male Peace Corps Trainees and 950 female Peace Corps Trainees. (Data from Table 8 of Stern, Cohen, and Redleaf, 1966. Used by permission.)

1967. In 1966 male Trainees were higher than their 1963-64 counterparts on only three factors: Sensousness, Friendliness, and Expressiveness-Constraint; in 1967 they were higher than the 1963-64 group on no factor. In 1966 female Trainees were higher than their 1963-64 counterparts on the same three scales as the males were; in 1967 female Trainees were at least slightly higher than their 1963-64 counterparts on the same three scales and also on Self-Assertion, Audacity-Timidity, and Egoism-Diffidence. The statistical significance of these changes has not been evaluated, nor is information about their origin available. However, it may be that they reflect quality changes in the persons admitted to Peace Corps training. Stern et al. believed that concomitant changes in an Organizational Climate Index (OCI), to be discussed later in this report, indicated a worsening of the Peace Corps training program; but it seems equally plausible to use the AI and OCI data as indices of the quality of Trainees.

There is one especially extensive description of Trainee characteristics for an individual project. Stein's (1966, Chapter 3) 60 successful male Trainees in an early project had the following features: (a) mean age of 23 years; (b) mean height of 5'11"; (c) 40% of their fathers had attended college; 17% of their fathers had attended graduate or or graduated from professional schools; mothers' education was similar; (d) one-half were reared in Protestant, one-third in Catholic, and eight percent in Jewish families, although two-thirds of the total group didn't consider themselves formally religious; (e) one-half were from farms, one-fourth from towns, one-third from cities, and one-sixth from suburbs; (f) from an average family of three children, about one-half were oldest children, one-fourth were youngest, and two-thirds were either first-born or the only male or the only child; and (g) 8% of their parents were divorced. The individual self-descriptions of these 60 Trainees frequently included the terms Active, Cooperative, Intelligent, Friendly, Open-Minded, Realistic, Eager for Knowledge, Ambitious, Determined, and Resourceful. They also tended to be more interested in the humanities than were persons who did not pass the training program. The latter group were relatively more interested in mathematics and physical sciences.

One gap appears in the research on characteristics of Trainees -- we know a good deal about Trainees but somewhat less about their differences from other adult or college populations. We have learned from national surveys that the attitudes of applicants and students interested in the Peace Corps differ from those of the general college population and will later see that college grades in the major subject and verbal aptitude test scores sometimes correlate with Final Board Ratings. The evidence for stronger interest in graduate school among applicants seriously considering the Peace Corps than among the general college population may be an indication that the Peace Corps tends to attract students of superior academic potential, but more direct evidence on this point is needed. A new study making more comparisons of ability or academic achievement measures for applicants or Trainees and the general population would be useful.

We will see in Chapter 4 that academic aptitude and college grades were, if anything, less predictive of overseas success than of Final Board Ratings. It may well be that Peace Corps recruiting and selection procedures have restricted the pool of suitable prospective Volunteers. Thus the study now proposed might be of assistance in leading to a more intellectually heterogeneous group of Volunteers, both with and without college background, without impairing the quality of overseas work.

Motivation and Personality of Volunteers

Laymen and psychologists alike are intrigued by the motives of Volunteers. Why do people serve in the Peace Corps? Hobbs (1963) speculated that the following dimensions would emerge from research on motivation: Idealism ("I desire to serve"); Tough-Minded Disenchantment ("...but I know I may not be able to do much"); High Need for Affiliation ("It will be good to make friends in other lands"); and Intellectual Adventuresomeness ("It will be interesting and a learning experience").

Smith's (1966) interpretation has been that the initial motivation of Volunteers was to obtain a psychosocial moratorium (2 years out for reassessment and self-discovery were welcome rather than a great sacrifice) and a need to justify this delay in an achievement and career-oriented culture by doing something worthwhile. More minor motives are the attraction of adventure and new experience and the chance for career-related exploration.

Smith's views were supported by Harris' (1966b) interview data from college seniors discussed earlier. Both that survey and the interviews reported by Seashore and Bowers (1963, 1964) suggest that applicants who declined the invitation to enter training resolved the desire for a moratorium and for participation in a worthwhile adventure in favor of immediate pressures to pursue direct career-related activities, at least partly because of greater existing commitments and responsibilities.

Allard (1964) found that among 1,568 Volunteers completing Peace

Corps service, the highest ranked of 12 possible reasons they reported as influencing their original joining of the Corps was to gain intercultural experience. Table 3-7 shows mean rankings of the reasons on a scale from 0 to 11. These data are closer to the public image of Peace Corps motivations than are the interpretations by Smith and others just cited. However, Allard's 12 items did not include anything close to seeking time out for reassessment and self-discovery. It may be noted that Colmen's interpretive article (1965), written when he was Deputy Associate Director of Planning, Evaluation, and Research for the Peace Corps, properly reflects both these kinds of evidence.

Insert Table 3-7 about here

Stein (1966, pp. 41-47) had the foresight to administer the same motivation questionnaire to 35 Volunteers during training and to the same Volunteers at the completion of their tour of duty in Colombia. In the later administration Volunteers were asked to tell what their motivations _had been_ at the time of entering the Peace Corps. At each administration the Volunteers were asked to rank 16 possible motivations in order of importance to them. Though approximate parallels to four or five of Allard's questions were included in the 16, the Stein items seem to be more personally oriented.

At the end of service, Volunteers assigned most importance to the following motivations (in order from the most important on down): (1) "To learn about a culture and to make friends among a people that are different from my own," (2) "To help other people improve their living standards," (3) "To broaden my experience so I can become a more mature and developed

Table 3-7

Mean Rankings of Different Reasons for Joining the Peace Corps

(Expressed retrospectively by 1,568 Volunteers at the close of their Peace Corps service. Data from Allard, 1964. Used by permission.)

Reason (Abbreviated from original statement)	Mean Ranking on a Scale from 0 to 11, with 11 Most Favorable
1. To gain intercultural experience	8.44
2. To work with people	7.70
3. Belief in the Peace Corps	6.79
4. To create close person-to-person relationships with people of the host countries	6.57
5. To build a better world	6.45
6. To gain personal satisfaction through Peace Corps service	6.24
7. To change the American image abroad	5.56
8. To learn or gain general experience or specific vocational or language training	5.11
9. To teach	4.61
10. To further a career	3.79
11. To apply specific skills or knowledge	3.53
12. Previous intercultural experience	2.98

person," (4) "To participate in a new experience that may be exciting and adventurous," and (5) "To contribute to better and more peaceful relations between people of different countries." It is noteworthy that Reasons (3) and (4), which lack close counterparts in the Allard list, were two of three items whose importance significantly increased from the initial to final rating. The third such item, "To broaden my experience so I can make a better decision regarding my future career plans," is also very personally oriented but nonetheless close to the tenth item in Allard's list.

All three items for which the Volunteers significantly decreased their assessment of importance were service-oriented rather than personally oriented: (1) "To contribute to better and more peaceful relations between countries," (2) "To help the United States maintain leadership and responsibility with regard to other nations in world affairs," and (3) "To teach others what skills I have." Nonetheless, the first of these items remained on the list of five most important motivations. Indeed, despite the shift in emphasis we have just noted, three of the final five major motivations were service-oriented.

The Stein data seem to reflect the two kinds of motivation considered earlier in this section. It is interesting to speculate whether the retrospective ratings reflect awareness of motivations hidden to the Volunteer when he entered the Peace Corps, motivations known to him but not reported lest they hurt his status with the Peace Corps, or changing motivations as service continued. Very possibly each of these three factors may have been operative.

We now turn to personality data other than those bearing directly on prediction of performance during Peace Corps training or service. Ezekiel (1968) found at least marginally significant differences ($p < .10$ or better) between male and female Volunteers on four of six scales of his Mock Autobiography exercises. Mean scores for males were higher than for females on five of the scales, being lower only in Differentiation for the first story written by each Volunteer. Lower scores for some women appeared to result from lack of career orientation other than marriage. Ezekiel also found that persons in the highest third and lowest third of scores on a particular autobiographical scale differed significantly in mean scores for certain Q-sort decks, doing so more often than the 5% rate expected, for certain scales. These Q-sort scores were based on ratings of items viewed in the light of information from four hour interviews in the first year of service or two hour interviews in the second. Differentiation 3, the differentiation measure for the anticipated life at age 30 to 40, was particularly discriminative, with from 7.5% to 21.5% of items per deck showing significant differences. The high group on Differentiation 3 had significantly higher means on items such as "Enjoys teaching" (Perceived situation deck); "Is a genuinely dependable and responsible person" (Personality deck); and "Identifies with the Ghana Peace Corps group" (Role performance deck). The low group had significantly higher means than the high group on items like "Is bothered by the lack of normal comforts and conveniences he would have at home" (Perceived situation deck); "Would tend to release emotional expression freely in time of troubles" (Personality deck): and "Sees Peace Corps service as a way out of a dreary, tense, or unpleasant situation" (Role performance deck). Ezekiel emphasizes that significant differences do not imply that a particular item is characteristic of a majority of persons in one group and a minority in another.

In view of Smith's (1965a) failure to find a significant correlation between authoritarianism and overseas effectiveness in the Ghana I group, to be discussed in Chapter 4, it is interesting that Ezekiel's (1968) work on the same project showed negative correlations of the so-called Derived F measure of authoritarianism and each of the six autobiography dimensions, two of these relations being significant at the .01 level and one each at the .05 and .10 levels. Ezekiel calls attention to the presence of dependency and low-identity Q-sort responses among those with low scores on the Mock Autobiography scales. This makes a somewhat distant link between authoritarianism and dependency or low-identity which deserves further and more direct investigation. Ezekiel also reported that five of the six autobiographical scales correlated at the .10 level or better with frequency of peer nomination as doing a particularly good job, when scores for Protestant Volunteers only were analyzed. Three of six such correlations met this criterion for data from female Volunteers. However, only three of the remaining 18 correlations approached significance, one out of six in each of the following categories: males, Catholics, and total sample.

Summary of Information Regarding Characteristics of Volunteers and Comparison Groups

1. College seniors have generally reported a strongly favorable attitude toward the Peace Corps, with no other United States program being viewed as contributing so greatly to the international reputation of this country. There was some decrease in interest in

the Peace Corps among college students in the late 1960's.

2. Studies conducted in 1966, 1967, and 1969 showed from 13% to 16% of college seniors giving serious consideration to applying to the Peace Corps. The seriously interested group was more liberal and more activist than the general college senior population. Its members were also more interested in attending graduate school and in social work and related occupations. Actual applicants for Peace Corps service reported similar attitudes to those of the seriously interested group.

3. Seniors in black colleges are only about three-fourths as likely to seriously consider the Peace Corps as are seniors from randomly selected colleges. Black students report generally favorable attitudes toward the Corps but are more concerned about their own immediate occupational or educational plans and about improvements in the United States rather than in other countries. Current efforts to recruit black Volunteers emphasize development of internship programs in black colleges, permitting college credit for Peace Corps training and service.

4. A 1969 policy decision to increase the proportion of experienced skilled workers led to studies of such groups. There was considerable interest in volunteering, particularly among teachers. However, changes in stipend, protection of seniority rights in their current positions, and the privilege of taking their families overseas with them were frequently indicated as desirable. Recruitment of skilled workers has been relatively effective since that time.

5. Approximately 55% of Peace Corps applications have come from college students. In one study there was a .37 correlation between an index of quality of a college or university and a measure of its contribution of applicants and

Trainees to the Peace Corps. Non-sectarian private colleges have been prime sources of applications, and schools in the western United States have shown the highest per capita application rates of any region.

6. Fifty percent or more of applicants who receive invitations to enter Peace Corps training decline them, but some later accept invitations for a different project. Decliners seem to have stronger immediate needs for career development than persons accepting Peace Corps invitations.

7. Peace Corps Trainees predictably show attitude inventory responses emphasizing service to others. They also exhibit much less acceptance of bureaucratic values than comparison groups outside the Peace Corps.

8. About two-thirds of Volunteers and Trainees have been male, the percentage fluctuating over a 10% range from year to year. Mean age has been about 25, with approximately a four year range in fluctuation in means over the course of Peace Corps history. Only 70.6% of Volunteers and Trainees in 1962 were college graduates but corresponding percentages since that time have been in the high 70s or the 80s.

9. Two kinds of motivation for Peace Corps service appear predominant: Service to others and personal development or satisfaction. Comparison of motivations reported during training and reinterpretations of those motivations after completion of service indicate that both types of motivation are typically strong, but that personal needs receive increased attention in the later reports.

Chapter 4

Predicting the Quality of Performance During Training and Overseas Duty

The pre-invitation stages of applicant processing, suitability screening, initial assessment, and classification can be treated briefly because there are very few reports of research within any of these stages. We simply do not know the quality of candidates turned away. There is no indication of the consistency of stability of the assessments of overall suitability or the current rating or project suitability in terms of agreement between two or more individual raters, between individual raters in pooled ratings, or between individual or pooled re-ratings. There is no report on the steps, judgments, and conflicts that classifiers go through or how they weight various items of information. No attempt has been reported of developing a statistical procedure for comparison with the clinical one. There is virutally no information on how invitees are linked up to programs.

There are, however, two studies providing information on the determinants of the overall suitability rating, also called the project suitability rating (Preston, 1963; Gordon & Sizer, 1963). Gordon and Sizer's report, the more substantial of the two, described a content analysis of responses by 2,612 Peace Corps applicants to the Peace Corps Volunteer Questionnaire's item asking, "What do you expect to accomplish by joining the Peace Corps?" Responses were coded into 27 subcategories such as belief in the Peace Corps with a consequent desire to make it work. On each of 12 subcategories, including the one just listed, a significantly higher proportion of highly rated applicants (the 51% rated good - "4" - or excellent - "5") than of less highly rated applicants indicated a reason. Other subcategories with high proportions for superior applicants included ways of giving service (to build a better world, to change the American image abroad, to work with people, to create close person-to-person relationships, to teach, to apply specific skills, and to use previous intercultural experience). A further category of motivations significantly more present in highly rated applicants was personal gain (of personal satisfaction, of intercultural experience, of learning, and of career advantages). The better applicants indicated more things they expected to accomplish, and so there are no categories in which a significantly lower proportion of "4s" and "5s" than of lower rated applicants were reported.

Prediction of Successful Completion of Peace Corps Training

This section deals with the last stage of selection which occurs during training. The research to be reviewed relates primarily to the question, "To what extent can measures obtained before or during training predict successful or unsuccessful completion of training or Field Selection Officers' ratings?"

Before turning to these prediction data, however, we give an indication of the proportion of Trainees who are actually sent overseas. These estimates were obtained by dividing the proportion of invitees who go overseas by the proportion of invitees who accept the invitation to enter training, as reported by Zeller et al. (1968). For applicants from black Southern universities and colleges the percentages were 74.2, 77.5, and 78.5 for 1965, 1966, and 1967, respectively; the corresponding percentages for all applicants were 75.5, 89.0, and 85.0, indicating a slightly higher rate of loss during training among persons from the black colleges.

Surveys of Predictors in Many Projects

Krug (1962a) reported correlation coefficients for available measures with Final Board ratings (FBR) from the first 18 Peace Corps projects. Colmen, Kaplan, and Boulger (1964) conducted a later survey which included some new measures and projects, although the period and projects were not specified. Table 4-1 presents the combined findings for measures in a rough order of predictive validity based on an inspection of the per-

Insert Table 4-1 about here

centage of coefficients significant at each of two significance levels, and the number of projects sampled. Krug and Colmen et al. have reported on only four measures in common, namely psychologists' ratings, Modern Language Aptitude Test (MLAT), Verbal Aptitude Test, and education. The data from the larger number of projects are reported for the first two (psychologists' ratings from Colmen et al. and MLAT from Krug). The results for the Verbal Aptitude Test and education are sufficiently disparate to justify reporting them from both studies. In Table 4-1 the results from Krug pertain to age, the Biographical Data Blank (BDB), letters of reference, the MLAT, psychiatrists' predictions, and sex; the others are from Colmen et al. Measures are included only if there are data from five or more projects. Omitted in order to conserve space were two additional scales from the MMPI and twelve from the Edwards Personal Preference Schedule (EPPS) which had no coefficients significant at $p < .05$ in 24 and 9 projects, respectively.

Stern, Cohen, and Redleaf (1966) have provided three other kinds of selection information from 61 training projects. The Stern Activities Index (AI) was administered at about the mid-point of training and was scored for 1,530 men and 950 women (Stern et al., 1966, Table 8), but correlations with Final Selection Board ratings (another term for Final Review Board ratings, FBRs) were provided only for the males because the number of women with these two kinds of scores and overseas effectiveness ratings (to be described in a later section) was too small. The Stern et al. Table 8, based on 1,530 or fewer cases gives correlations with

Table 4-1

Number of Correlation Coefficients Significant at Two Levels for Predictions of Final Board Ratings Based on Krug (1962a) and Colmen, Kaplan, and Boulger (1964). (Data summarized by permission).

Rank	Predictor	No. of PC Projects	No. significant at .01	No. significant at .05	Combined % significant
1	Instructors' ratings: Technical studies	12	4	4	67
2	Peer ratings: Prediction of success	16	6	4	62
3	Psychologist's rating: Prediction of success	18	6	5	61
4	Psychiatrist's rating: Prediction of success	14	6	2	57
5	Education[a]	7	3	1	57
6	College grades in major subject	7	3	1	57
7	Instructors' ratings: Language	16	5	4	56
8	Instructors' rating: Area studies	15	5	2	47
9	Training grades: Language	19	4	4	42
10	Assessment rating: Overall suitability	27	4	7	41
11	Training grades: Technical studies	15	4	2	40
12	Letters of reference[b]	18	3	3	33
13	Instructors' ratings: American studies	6	1	1	33
14	Training grades: Health	10	2	1	30
15	Training grades: Physical training	18	2	3	28
16	Modern Language Aptitude Test (MLAT)	11	2	1	27
17	Verbal Aptitude Test[c]	15	2	2	27
18	Instructors' ratings: Physical training	13	2	1	23
19	MMPI: K	23	2	3	22
20	BDB: Health	18	2	2	22
21	EPPS: Aggression	9	0	2	22
22	Training grades: American studies	5	1	0	20
23	Instructors' ratings: Health	6	1	0	16

Table 4-1 continued

Rank	Predictor	No. of PC Projects	No. Significant at .01	.05	Combined % significant
24	BDB: General Suitability	18	1	2	16
25	Sex	15	1	1	13
26	MMPI: L	23	1	2	13
27	MMPI: Pd + .4k	24	2	1	12
28	MMPI: Sc + 1k	24	0	3	12
29	EPPS: Consistency	9	1	0	11
30	Instructors' ratings: World affairs	9	1	0	11
31	EPPS: Autonomy	9	0	1	11
32	EPPS: Endurance	9	0	1	11
33	MMPI: F	23	0	2	9
34	MMPI: Pa	24	1	1	8
35	MMPI: Hs + 5k	24	0	2	8
36	MMPI: Hy	24	0	2	8
37	Age	18	0	1	6
38	MMPI: Si	24	1	0	4
39	MMPI: Mf	24	0	1	4
40	MMPI: Pt + 1k	24	0	1	4
41	Education[a]	17	0	0	0
42	Verbal Aptitude[c]	7	0	0	0

a The Colmen *et al*. (1964) data on education for 7 projects yield markedly better predictive validity than do the Krug (1962a) correlations from 17 projects. An explanation of the disparity is not apparent.

b Since the original version of the Reference form had no Overall Evaluation category, correlations were reported for Job Competence, Emotional Maturity and Relationships with Others. Of 54 possible *r*'s, 9 were significant at p=.01, 8 at p=.05, and 37 at p > .05. To make these data comparable to others in the table, each number has been divided by 3.

c The reports of Krug (1962a) and Colmen, Kaplan, and Boulger (1964) appear to be contradictory. It is possible that the data on 7 projects from Colmen *et al*. are on the General Aptitude Test which was first used in 1963 whereas the earlier Verbal Aptitude Test was used in 15 of the first 18 projects.

FBRs ranging from .03 (Applied Interests) to .60 (Motivation) in absolute value for the 12 first order personality factors previously identified for the AI. The most extreme negative predictor of these ratings was Sensuousness ($r = -.50$). Individual scales on which the factors were based correlated as highly as .66 (Energy) with FBRs.

A second kind of information from Stern et al. (1966) relates to training units rather than to individual Trainees. Those units which gave high average FBRs to their Trainees had significantly higher Self Assertion factor scores for females than did the other projects. For males the only factor which approached significance on the comparable analyses was Motivation, with higher motivation apparently (not stated explicitly by the authors) being associated with higher Board ratings.

Finally, in another comparison of training programs Stern et al. (1966, p. 59) reported that units with around 50% attrition during training had males who were significantly higher on Audacity compared with programs having a training attrition around 30%. Apparently the authors also concluded that significant correlations existed between training attrition rate for different programs and factors of Applied Interests, Orderliness, Submissiveness, and Closeness in women.

Reports of Various Predictors for Single Projects

For 43 Trainees in a primarily community development project destined for Chile, 33 measures were obtained during training in the summer of 1962 (Perloff & Gillmer, 1964). FBR was most influenced by mean final grade for all courses, peer prediction of success, MLAT and Verbal Aptitude (r = .63, .61, .32, .29, respectively; the first two significant at $p = .01$, the latter two at $p = .05$).

Bartlett et al. (1966) have studied the predictive value of their revised interview rating form (for use by FAOs) and of a Trainee 50-item descriptive checklist (for use by participants in Intermediate and Final Boards). Data are reported for up to five individual projects; combined data will be presented here. The revised interview rating form scores correlated .55 with Final Board ratings, slightly higher than typical correlations obtained by Krug (1962a) with the original form. The correlation of descriptive checklist scores assigned by an FAO during Final Boards and FBRs was .62, based on three projects with a total _N_ of 127. This checklist had an interjudge agreement correlation of about .85.

Multiple Regression Studies

For the first Peace Corps project for Colombia, which trained for nine weeks in this country starting in June, 1961, Stein (1966, pp. 25-31) has presented Pearson and multiple correlation coefficients between twenty measures and two Final Board criteria for the 78 Trainees (of the original 82). One criterion grouping consisted of 62 who were selected and 16 who were not. The other involved four groups on a continuum: rejection, acceptable, very good, excellent. For the dichotomous criterion, correlation coefficients significant at $p = .01$ were obtained using psychiatric diagnosis ($r = .46$) and instructors' ratings in Spanish ($r = .31$). The following were significant at the $p = .05$ level: instructors' ratings in Latin American history ($r = .28$); Spanish grades ($r = .26$); and scores in the Ego Strength (_Es_) Scale ($r = .26$) (Barron, 1953) and the MMPI Manifest Anxiety (_At_) Scale ($r = -.27$) (Taylor, 1953). The unadjusted multiple R between 19 variables and the dichotomous criterion was .69; corrected for shrinkage, .54 ($p < .01$).[1] One might infer from the beta weights that the Final Board decision was most influenced by psychiatric diagnosis; instructors' Latin American history ratings and grades (weighted negatively); Spanish grades; psychiatrists' prediction of success; and instructors' ratings in community development; in that order. (Community development is discussed at length in Chapter 6.)

For prediction of Final Board ratings, all of the following measures correlated significantly at the $p = .01$ level except for the last at $p = .05$: Instructors' ratings in Spanish ($r = .52$); grades in Spanish ($r = .46$); instructors' ratings in Latin American history ($r = .38$) and in community development (.36); psychiatric diagnostic rating ($r = .31$); *Es* ($r = .31$); *At* ($r = -.31$); and grade in Latin American history ($r = .24$). The unadjusted multiple R was .80; shrunken $R = .72$ ($p < .01$). The Final Board decision apparently was mainly influenced by instructors' ratings in community development, Spanish grades, psychiatric diagnostic ratings, instructors' ratings in Spanish, and *Es*. Apparently the Board, in deciding whether or not to send a Trainee overseas, placed greatest emphasis on his current psychological status, and a lesser degree on learning ability as measured by grades, and on information pointing more directly to future outcomes.

Krug (1962a, 1962b) has developed regression equations for predicting FBRs from selection test scores (verbal ability, U.S. history, Modern Language Aptitude Test, subject matter knowledge); five Biographical Data Blank scales (General Suitability, and Interest in Teaching, Agriculture, Engineering, and Health); age; amount of education; and three ratings by references

(Job Competence, Emotional Maturity, and Relationships with Other People). The two articles present similar findings; we report on the second because it uses a revised key for the Biographical Data Blank and thus presumably has superior predictors. Multiple *R*'s of .532, .524, and .414, respectively, were obtained with Trainees for agricultural and rural development (*N* = 76), teaching (*N* = 181), and multi-purpose (*N* = 115) projects, using the best eight predictors for each type of project. (Apparently these *R* values were not corrected for shrinkage, making them very slightly too high in view of the large sample sizes and small number of predictors.) As shown in Table 4-2, not all predictors show the expected positive weighting with the criterion, nor are the best predictors the same from one type of project to another. In each case, however, a substantial improvement is made by multivariate prediction, as compared to univariate prediction.

Insert Table 4-2 about here

Gostin and Levitan (1967) have reported a stepwise multiple regression analysis of 29 potential predictors of Final Review Board ratings for 54 Peace Corps Trainees. Six variables, listed below from highest to lowest in predictive value, exhibited correlations of .40 or more with the criterion: peer ratings of who would be the best leader in the group; social studies - world affairs grades in PC training; physical condition; overall psychological rating; peer ratings of who would be most successful in the Peace Corps; Concept Mastery II; Concept Mastery I; peer ratings of who would be a good confidant; and peer ratings of adaptability. These correlations were most of those exceeding the .05 level of significance; several also exceeded the .01 level. However, the 11 variables which contributed significantly to a multiple correlation of .895 omitted some of these just named (peer rating of leader, peer rating of success, Concept

Table 4-2

Multiple Correlations of the Most-Successful-Eight-Predictors-Available-Prior-to-Training and Final Board Ratings in Three Kinds of Peace Corps Projects

(Based on Table 10 of Krug, 1962b. Reproduced by permission.)

Agriculture and Rural Development (N=76)			Teaching (N=181)			Multi-Purpose (N=115)		
Predictor	Sign of Beta Weight	R (Cumulative for all predictors down to any row)	Predictor	Sign of Beta Weight	R (Cumulative)	Predictor	Sign of Beta Weight	R (Cumulative)
Emotional Maturity (References)	+	.332	General Suitability (BDB)	+	.350	Modern Language Aptitude Test	+	.278
Age	+	.433	Subject Matter Test	+	.409	Relationships with others (References)	+	.329
General Suitability (BDB)	+	.470	Relationships with others (References)	+	.463	Teaching Interest (BDB)	+	.352
Subject Matter Test	+	.500	Teaching Interest (BDB)	+	.482	Job Competence (References)	-	.370

Cotton

Table 4-2 (Cont.)

Predictor	Sign of Beta Weight	R (Cumulative for all predictors down to any row)	Predictor	Sign of Beta Weight	R (Cumulative)	Predictor	Sign of Beta Weight	R (Cumulative)
Modern Language Aptitude Test	-	.508	Health Interest (BDB)	+	.496	Age	+	.386
Verbal Aptitude Test	+	.522	Agricultural Interest (BDB)	-	.512	Agricultural Interest (BDB)	-	.398
Job Competence (References)	+	.530	U. S. History	+	.519	General Suitability (BDB)	+	.408
Relationships with Others (References	-	.532	Emotional Maturity (References)	-	.524	Education	+	.414

Mastery I and II, peer rating of confidant, and peer rating of adaptability). The peer ratings thus omitted included the variable with the single highest correlation with the criterion, but variables retained in the final regression equation proved in effect to form composites equivalent to those peer ratings, making the latter unnecessary. On the other hand, the following additional variables were significant contributors to the final regression equation: a measure of semantic spontaneous flexibility called Alternate Uses; the Guilford-Zimmerman Temperament Survey Scale for Restraint; peer ratings of the person with whom they would like to be co-assigned; Guilford-Zimmerman Temperament Survey Scales for Ascendance, Subtle Falsification, Sociability, and Friendliness; and negative peer ratings, these variables being listed in order of entry into the regression equation. Some of these variables had almost no correlation with the criterion by themselves but all had partial correlations of .27 or higher with the criterion after taking into account the variables previously included in the regression equation. Contrary to the expectations of the investigators, who were trying to apply the Guilford Structure of Intellect model to the Peace Corps situation, high semantic spontaneous fluency proved negatively related to FB ratings, and a measure of social intelligence was not significantly related at all to the criterion.

Gostin and Levitan's predictions may be compared to those of Stein (1966) because both studies employed some data obtained in training, in contrast to Krug's (1962a, 1962b) work also cited in this section. After correction for shrinkage the Gostin and Levitan $\underline{R}$ becomes .74, which appears substantially greater than the corrected $\underline{R}$ of .54 obtained by Stein.

Krug (1962a) also presented multiple correlations and regression equations for predicting Final Board Ratings from the three ratings by reference plus six interview ratings by the psychologist serving as Selection Officer on a specific project and seven interview ratings by the project psychiatrist. The obtained R's were as high as .837 (for the Nigeria-bound group trained at Michigan State University) but would be substantially reduced, even halved in some cases, by correcting for shrinkage, since project N's were as low as 29 and no higher than 66 in three projects thus studied. Since the psychologist and psychiatrist participated in the Final Board deliberations, there is also some contamination of predictors and criteria. However, it could be argued that substantial validity of their initial ratings would suggest the possibility of effective screening by interviews prior to invitation to enter PC training. This suggestion has been followed in the assembly or staging interviews reported by J. Harris (1972) and mentioned in Chapter 2. Unfortunately, published research on these socalled PRIST interviews suggests that they have "little, if any, predictive validity for quality of performance in training" (J. Harris, 1973, p. 238; see also J. Harris, 1970, if available).

Predictive Value of the Full Field Investigation Report

In a further multiple regression study Richard Jones (1969c) reports that Full Field reports from 2,442 persons invited to enter PC training were processed by means of a coding schedule developed by R. Jones (1968a) to permit quantification of Full Field data. In the 1969 study 12 summary scores were employed, of which four were overall scores such as mean personality ratings, three were motivation items such as concern for peace, and five were critical incident clusters such as travel or psychiatric problems. Jones found that four of these 12 summary scores had correlations of .10 or higher (up to .35) with one or more of the references' rating measures, indicating an anticipated relation between these two kinds of information. Five of the 12 Full Field summary scores exhibited significant correlations with Final Review Board ratings, working at the .01 level or better. For example, a .30 correlation of Overall Rating (Full Field) with FBR was significant at the .001 level, based on a sample size of 867 persons for whom data of this sort were available at the end of training. Multiple regression analysis designed to predict FBRs from nine variables supposedly available prior to training, including four variables from the Full Field investigation, yielded a multiple R of .31 for 414 men and .49 for 233 women. (These R's are subject to shrinkage of .01 and .02, respectively.) The best predictor by this analysis was the percentage of "5" ratings (excellent) from all rating scales used by all persons providing written references. The second contributor to each multiple correlation was the Full Field overall rating, which added .04 or .06 to the R of .31 or .38 for men and women, respectively, based on the first variable only. No other Full Field variable had a substantial effect for men; Full Field asocial behavior was the fourth most important contributor for women.

Some indication of the reliability of coding of Full Field items is given in R. Jones (1968d). Sixteen summary measures were obtained for each of 50 Volunteers with each of five coders. The average intercorrelation for any measure for one coder with each of the remaining four coders showed no consistent inferiority or superiority of any one coder. Certain items such as number of unfavorable or qualified recommendations had average inter-rater reliabilities of as high as .96. At the other extreme, one coder showed a -.04 average correlation with other coders on a measure of activism, and no coder showed an average correlation with the other coders of greater than .34 on this item.

This same study sought to simplify interpretation of 40 Full Field item measures for 872 Volunteers and Trainees by means of a principal components analysis followed by an oblique simple structure rotation, separate analyses being conducted for men and women. Fourteen factors accounted for 59% of the variance in the analysis of males' data, and 13 factors accounted for 61% of the variance in the analysis of females' data. Ten highly similar factors for each analysis are listed here: Personality (general likeability), Motivation, Travel, Psycho-social Adjustment, Psycho-sexual Adjustment, Concern for Peace, Missionary Zeal, Escapism, Volunteer-activist, and Authority Conflict. The four factors specific to men were named Draft Concern, Scholastic Problems, Glamour, and Unstable Career Goals. The three factors specific to women were named Intra-personal Adjustment (as opposed to the interpersonal problems possible with the Psycho-social Adjustment factor listed above), Civil Difficulties, and Ideal PCV. Scores on each of these factors were computed for each person to whom the original Full Field data applied. The factor scores were then grouped according to origin of the cases (Samples A, B, and C) so that factor scores could be used as predictors of the criterion measures available for each group. For example, 285 male Trainees and 187 female Trainees, constituting Sample C, had separate predictions of Final Review Board ratings as a function of factor scores developed for each sex and individual. Two of the 14 factors for males, Personality and Pyscho-social Adjustment, showed significant ($p < .01$) correlations with FB ratings. Five of the 13 factors for females (Personality, Missionary Zeal, Ideal PCV, Authority Conflict, and Psycho-sexual Adjustment) showed significant correlations ($p < .05$ or better) with

FBRs. A pair of significant directional findings seemsunexpected: Good Psycho-social Adjustment in males had a .26 correlation with poor FBRs, and strong Missionary Zeal in females had a .19 correlation with good FBRs. In addition, a favorable Full Field overall rating was significantly correlated with good FBRs, both for males and for females. Non-recommendations or qualified recommendations were significantly predictive of poor FBRs for each sex.

Prediction of attrition during training for Sample A (110 men and women 69/training for community development work in Latin America) and for Sample C showed that two factors from the factor analyses just reported were significant predictors for men: Personality Problems and Authority Conflicts were indicators of likelihood not to survive training. No significant factor predictors were found to work for both samples of women, but Personality Problems showed a significant correlation with Training Attrition in Sample C and approached significance in Sample A. Non-recommendations or qualified recommendations and overall Full Field ratings showed significant expected trends with Training Attrition except that the former predictor was not successful in Sample A with either sex.

For Sample A a measure of Overall Attrition (persons lost during training or in overseas service) showed much the same correlations with predictors as did Training Attrition. This is to be expected since Overall Attrition amounted to 25%, most of which (17%) was Training Attrition. In an earlier study of Overall Attrition among 135 persons, R. Jones (1967c) investigated differential predictions by neighbors, educators, and employers interviewed in the Full Field Investigation. Original scales, rather than factor scores generated statistically, showed small but significant correlations between Psycho-social Adjustment (both as rated by neighbors and as rated by educators) and Successful Completion of Service. Also good Interpersonal Relations, based on educational raters only, showed a similar correlation with successful completion of service.

A Special Pre-training Assessment Program

The possibility of substituting a brief assessment program for a relatively long and expensive one is of considerable interest. Schroder, Harvey, Hunt, and Koslin (1965) were also interested in testing out their conceptions of the characteristics required for success in the Peace Corps. A six-day pre-training assessment program for 104 males and 74 females recruited in the usual manner was conducted at two sites (laboratory and field). It was evaluated regarding its effectiveness in predicting Final Board dichotomous decision of "Go" or "No Go." From tests, simulated field problems, and peer ratings, measures of Adaptability, Motivation, Interpersonal Relations, Intellectual Level and Language Capacity were derived. Trainees, were informed that the six-day program was part of their training and assessment which would continue at several sites (and were disabused of this notion at the end of pre-training).

Using most of the measures, the authors' clinical predictions of Final Board dichotomous decisions with an anticipated attrition rate of .16 were 71% correct. For those predicted to be selected by the Final Board, 72% (104/143) of the predictions were correct; for predictions of non-selection, 62% (19/31) were correct. Total correct predictions were virtually equivalent at the two pre-training sites.

Clinical, predictions using all the measures and knowing the actual atrition rate of .33 were 69% correct. For their six-point ratings and dichotomous criterion, biserial r = .43 (N = 171). Seventy-five percent of those selected and 55% of those not selected were correctly predicted. All Final Board decisions were made without knowledge of the pre-training measures.

In this same pre-training assessment program, L. Gordon (1967a) compared the effectiveness of two clinical and two statistical methods for predicting the Final Board dichotomous decision. The four methods were:

Clinical -- (1) holistic clinical judgment based on the application blank, verbal (GAT) and language aptitude (MLAT) scores in the Peace Corps Placement Test, observations of situation performance tasks and group activities, scores in brief language training, personality tests, peer ratings and (2) clinical judgment based only on language scores and personality tests;

Statistical -- (3) objective scoring of language performance with a predetermined cut-off point, and (4) objective scoring of personality tests developed by the author, with a predetermined cutting score. Note that the four different methods use different information as well as processing it differently, i.e., by clinical or statistical means.

All methods were equally effective: tetrachoric r = .39, .39, .41, .37, respectively, with $p < .01$, N = 172 in each case. Scores based on proficiency in fifteen hours of training in the Russian language (for a subgroup of 27) showed a remarkable correlation with the dichotomous criterion (biserial r = .87, $p < .01$). Thus Gordon (1967a) had demonstrated the virtual equivalence of certain statistical and clinical methods, the latter being more costly and difficult to replicate. One wonders whether or not peer ratings might have done as well as predictors. These were obtained but their predictive efficiency was not reported.

Since Gordon's changes in procedure are of great potential importance, his paper merits detailed consideration. Although only the percentage of correct non-selection decisions received emphasis in Gordon's paper, other data can also be determined from the last two columns of Gordon's Table 1 and related calculations employing an overall rate of 35.5% attrition during the training programs studied by Gordon. Table 4-3 shows the results for one method, the statistical prediction of Final Board decisions from personality test scores (Method 4 above), illustrating the way of evaluating each method.

Insert Table 4-3 about here

If only the personality tests are used for selection, we will be wrong in 30.4% of our favorable decisions, for we will select 138 for overseas duty, 42 of whom are considered unqualified by the Board. When the decision from the test is "not select," we will be wrong 44.1% of the time, for we will exclude 34 from overseas service, 15 of whom were Board-qualified. If our criterion is the number of correct decisions either to select or not to select, we will be right 66.1% of the time, i.e., (96 + 19)/172 = 66.1%. However, according to Table 4-3, if we had said all 172 were qualified (without any pre-screening or regular screening procedures), we would be correct in 64.6% of the cases, for 111 in 172 were selected by the Board. Thus the overall percentage of correct decisions is almost as high with everyone selected regardless of personality test score as with selection based on personality tests.

Table 4-3

Prediction of Final Board Decisions from Personality Test Scores

(Calculated from Gordon (1967).)

Personality Test Prediction	Final Board Decision Select	Final Board Decision Not Select	Total Predicted	% Correct Predictions
Select	96	42	138	69.6
Not Select	15	19	34	55.9
Total Decided	111	61	172	66.9
% Decided	64.5	35.5		

Would the tests (or other predictors) if used, not as the sole selection device but as pre-selectors, be of practical value? Gordon (1967, p. 118) states, "The level of prediction is of practical utility, and as applied could result in a reduction of the attrition rate (in training) by about 5%." It is true that the attrition rate can be reduced to this degree, but at the cost of denying training to some who will succeed. The actual attrition rate in training without pre-selection, for the sample in Table 4-3, was 35.5%. If tests were used, 138 would have been pre-selected and 34 excluded. Of the 138, 42 would have failed in later training; yielding an attrition rate of 30.4% as noted above. The rate would have been reduced by 5%, but training would have been denied to 15/111 = 13.5% of those who would have succeeded. In addition to the question of justice to the Trainees, we note the problem that this represents a potential reduction in the size of the qualified personnel sent overseas. Gordon's (1967, p. 118) conclusion that "valid prediction may be effected for the lower part of the criterion range by very simple instrumentation," is neglecting the false negatives, i.e., the errors made by falsely judging a Trainee unsuitable for service. The decision as to whether this is a worthwhile result transcends purely statistical considerations until values can be attached to outcomes of different decisions (see Rosen, 1954; Meehl & Rosen, 1955; Buchwald, 1965; Arthur, 1966). It should be emphasized that if any pre-screening is to achieve the same results as in the Gordon study, it must be applied only to the group who have accepted the invitation and are ready to report for training, as was done in the screening interviews discussed by J. Harris (1972). Furthermore, it is conceivable that the pre-screening program itself may have increased anxiety during training and thus have affected performance.

Interrelationships of Predictors and Special Characteristics of Predictors

Several studies deal either with prediction of FBRs or interrelations of several predictors or with both.

Peer ratings and preferences. Mischel (1965) reported correlations significant at $p = .05$ for peer preferences with faculty ratings of general performance ($r = .35$), with a psychologist's prediction of success ($r = .35$), and with Final Board rating ($r = .34$). Perloff and Gillmer (1964) found that total peer rating was stable for 43 Trainees ($r = .80$ for the 4th and 8th weeks) and peer prediction of success was a good measure of total peer rating ($r = .90$ and $.91$ at the 4th and 8th weeks). For peer prediction of success, $r = .62$ with grades and $r = .61$ with Final Board ratings, both significant at $p = .01$. Boulger and Colmen (1964b) surveyed attitudes toward peer ratings by a questionnaire sent to 90 psychologists who had been involved in Peace Corps selection. Of the 58 (64%) who responded, two-thirds felt the ratings were valuable in reaching a selection decision; three-fourths believed that the information they provided could not be obtained more effectively in any other way; and 83% recommended that they continue to be used. The authors pointed out that no comparison was made to determine if those who responded to the questionnaire constituted a biased sample of Peace Corps psychologists.

Bartlett et al. (1966) have correlated peer ratings and FBRs for approximately 247 Trainees from five training projects. Data are available from testing just before the Intermediate Boards and just before the Final Board meetings. Bartlett et al. developed a peer nomination form which precluded naming more than five Trainees in answer to any one question. Each of six peer nomination scores (assigned with, not assigned with, leadership, adapt comfortably, talk over problems with, and predict success) correlated at least .31 and up to .57 in absolute value on each of the two testings. Bartlett et al. also studied the mean popularity of persons chosen by each Trainee, the mean popularity of those choosing the Trainee, and the mean popularity of those who both chose and were chosen by the Trainee. None of these three control measures correlated highly with FBRs though an occasional r was as high as .21 or .24 in absolute value.

Armilla (1964) has provided information suggesting the possibility of predicting high or low frequencies of peer nominations as a leader by using anxiety measures. He found that the mean TAQ (Test Anxiety Questionnaire, Mandler & Sarason, 1952) score was significantly higher for Trainees with four or more nominations as a good leader than for those with no nominations. Trainees with intermediate scores on leadership were intermediate in test anxiety as well, but did not differ significantly from the other groups. No significant relation appeared between chronic anxiety as measured on the Manifest Anxiety Scale (Taylor, 1953) and leadership nominations. Armilla notes that taking a leadership role exposes one to greater threats than not taking it. However, he does not explain why leaders should be those who give greater responses to stresses such as those present in course examinations, the focal point of the TAQ.

Fitzgerald (1968b) has objected to the standard Peace Corps peer nomination procedures as lacking a reliable index of inter-rater agreement and causing serious morale problems. The former objection stems from the fact that each rater names five persons from a larger group as having some characteristic such as "Most successful Peace Corps Volunteers," permitting a total score for each person rated and thus permitting measurement of test-retest reliability but not of inter-rater agreement. The latter objection is not documented by Fitzgerald (though subjective reports of it are common in the PC literature) but seems to have continued in some measure at least with the feedback procedure he employed to convey to Trainees the results of the peer rating procedures he introduced as a substitute for peer nomination.

Fitzgerald asked each member of four training groups (total $N = 43$) to rate himself and each other member of his group with respect to five characteristics: Sense of Identity, Compliance-Independence, Social Responsibility, Openness to Experience, and Sensitivity to Others. The *conspect reliability coefficients* (Fitzgerald, 1968a), as Fitzgerald called them, used to measure inter-rater agreement ranged from .53 to .83, depending upon the scale employed and the stage of training at which rating took place. The test-retest correlations form the third to the ninth week of training were .46, .77, .68, .75, and .73 for the respective traits listed above. A principal components analysis with varimax rotation yielded five factors, each with a loading of .83 or greater in absolute value on a different scale. Thus the five scales seem to reflect distinct personality characteristics. Scores on these scales have not been correlated with overseas effectiveness ratings or Final Board ratings.

Modern Language Aptitude Test. Krug (1962a) found that (a) the mean correlation between MLAT and FBR for a variety of projects and languages was .26 ($p < .01$, $N = 434$), and (b) older people do less well on MLAT.

Perloff and Gillmer (1963) reported that MLAT predicted Spanish grades to the extent of $r = .53$, predicted FBR with $r = .32$, and was fairly highly correlated with the Verbal Aptitude Test ($r = .77$).

Age of Trainees. The r for age and grades during training is $-.28$, $p < .05$, $N = 43$, (Perloff & Gillmer, 1963). Those 21 years old or less get lower FBRs than older Trainees (Krug, 1962a, p. 22).

Training grades. The rs for grades during PC training and PC faculty ratings of probable success overseas were $r = .45$, $p < .01$, $N = 41$, (Mischel, 1965), and $r = .82$, $p < .01$, $N = 43$ (Perloff & Gillmer, 1963).

Factor analysis. Cobb, Kline, and Wrigley (1966) have factor analyzed most of the selection data available for a sample of over 5,000 Trainees, finding 14 factors. The Interview Factor, containing 8.0% of the variance of the total data, had weightings on the order of .80 for each of the Selection Officer's ratings. The Assessment Summary rating pooling all information available prior to the beginning of training, was loaded .28 on this factor; the FBR had a loading of .42. Factor 2, *Judgment of Associates*, accounted for 6.3% of the variance. All but one of the six peer ratings showed a loading of over .70 on this factor; FBR had a loading of .40. FBR also had fair-sized loadings (.20 and .28, respectively), on the next two factors to be listed. The less important factors were General Grades and Evaluations, Technical Studies, Health Training, Physical Training, MMPI: Anxiety or General Maladjustment, Repression and Defensiveness, Introversion, Conformity, Sociability, Psychological Perspicacity, Toleration of Change, and a residual category.

Miscellaneous. Mischel (1965) has reported an $r = .61$ ($p < .01$) for faculty ratings of overall performance with an interviewer's predictions and $r = -.58$ ($p < .01$) for *Es* (Ego Strength) and *At* (Taylor Anxiety measure), both for 41 Trainees. Stein (1966, p. 29) has listed the following interrelations

for 78 Trainees:	r	p
Es and At	-.41	<.005
Psychiatric diagnosis and Es	.19	<.05
Psychiatric prediction and Es	.09	>.05
Psychiatric diagnosis and At	-.24	<.02
Psychiatric prediction and At	-.22	<.02
Psychiatric diagnosis and prediction	.06	>.05

Stein (1966, pp. 50-67) has reported on the analysis of a Self-Description Questionnaire with which Trainees rank ordered 20 paragraphs to indicate the degree to which those paragraphs described themselves. Each paragraph was so written as to illustrate the presence of one of Murray's (1938) needs, according to his system of personality. Mean ranks on two of the 20 were significantly different (p = .05 or better), with 61 Trainees who were accepted for overseas duty having a lower mean for Deference and a higher mean for Sentience (seeking out and enjoying sensuous impressions) than the 19 Trainees who were rejected. Since one out of 20 independent t tests should show significance at the .05 level or better, these two variables can hardly be said to be established as effective predictors.

In further analysis of the Self-Description Questionnaire, with Peace Corps Trainees and other respondents, Stein found it possible to define a variety of types of people on the basis on Q-technique factor analyses. Seventy-three out of 80 Peace Corps Trainees fell into five types, named Socially Oriented, Intellectually Oriented, Action Oriented, Unconventional, and Resourceful. Stein emphasizes that all 10 Action-Oriented Trainees were accepted for service in Colombia whereas between 21% and 35% of the Trainees in each of the other main categories were rejected. Our own calculations on this point suggest that this trend may be happenstance: Even with post-hoc selection of the Action-Oriented group to compare with all others (which gives an inflated indication of the magnitude of the effect), we obtain a χ^2 of only 3.52 for a 2 x 2 table comparing acceptance and rejection of the Action-Oriented group and all other Trainees studied. This is clearly less than the 3.84 value required for significance at the .05 level with 1 degree of freedom.

Review of Research on the Prediction of Overseas Effectiveness

Except when some other criterion is specifically mentioned, the measure of overseas performance in studies discussed below is Overall Evaluation, as defined in Chapter 2. The reason for emphasizing this measure is that a factor analysis of 23 overseas performance measures yielded an .88 loading on a General Performance factor for Overall Evaluation, with no other measure having so high a loading (Allard, Ralya, & Wrigley, 1964).

Surveys of Predictors in Many Projects

There have been two methods of simultaneously analyzing and presenting results from several projects. One is to calculate a correlation between each predictor and the criterion for each project and to list for each predictor the number of projects in which coefficients were significant at given levels of confidence. The second method is to present one overall coefficient for each predictor for the cases in all projects. The chief advantage of the second approach is that the coefficient for each predictor is based on a very large number. But in merging cases from many projects, "poor" data as a result of faulty administration, subject resistance, and erroneous scoring in individual programs are apt to attenuate valid relationships. It seems desirable, therefore, to present the data in both ways. This will be done in this section although the cases are not fully overlapping. An ideal approach would be to present data only from selected projects where there is reason to believe there are "good" data rather than merely dealing with numbers because they happen to be readily available on tape or in the file drawer.

Krug (1962a) reported on the first five projects for which overseas evaluation data were available. Colmen, Kaplan and Boulger (1964) presented data on a larger number of projects. It is assumed that their report includes Krug's analysis, with one exception: Colmen et al. did not include Krug's (1962a) finding that the Engineering key of the Biographical Data Blank predicted the criterion in two of five projects with r = .30 and .16, both significant at the p = .05 level.

Table 4-4 lists the findings of Colmen et al. (1964) in an approximate

Insert Table 4-4 about here

order of predictive validity based on number of projects and proportion which are significant at each confidence level. Measures available from fewer than five projects are excluded, as are the following predictors which had no significant coefficients: Grade in World Affairs (12 projects); EPPS (10 projects) -- Deference, Order, Exhibition, Autonomy, Affiliation, Intraception, Abasement, Nurturance, Endurance; Mean College Grades and Grades in Major (8 projects); California Psychological Inventory-- Dominance (5 projects).

Educational background and intellectual or linguistic aptitude were a poor predictor of overseas performance, according to Colmen et al. (1964).

This seems somewhat surprising in view of the emphasis placed by the Peace Corps on finding intellectually capable people. Possibly such aptitude is really required, but the correlation with Overall Evaluation has been reduced because of selection on this basis prior to training.

Table 4-4

Number of Correlation Coefficients Significant at Two Levels for Prediction of Overseas Overall Evaluation (Based on Colmen, Kaplan, and Boulger (1964). Data summarized by permission.)

Rank	Predictor	No. of PC Projects	No. significant at .01	No. significant at .05	Combined % significant
1	Final Board Rating	32	8	9	53
2	Peer rating: Prediction of success	15	2	6	53
3	Instructors' ratings: American studies	4	2	0	50
4	CPI: Achievement-Conformity	4	0	2	50
5	Guilford-Zimmerman: Masculinity	4	0	2	50
6	Psychologists' ratings: Morale	12	3	3	50
7	Psychologists' ratings: Interpersonal	17	4	4	47
8	Psychologists' ratings: Prediction of success	16	1	5	38
9	Training grade: Physical training	21	1	6	33
10	Holland: Emotionality	3	0	1	33
11	Holland: Control	3	0	1	33
12	Instructors' ratings: Language	15	4	0	27
13	Training grade: American studies	11	0	3	27
14	MMPI: K	25	4	2	24
15	Assessment rating: Overall suitability	26	5	1	23
16	Training grade: Language	22	3	2	23
17	MMPI: Hy	25	5	0	20
18	Training grade: Area studies	19	2	2	21
19	Education	8	0	2	25
20	Instructors' ratings: Technical studies	13	2	1	23

Table 4-4 (Cont.)

Rank	Predictor	No. of PC Projects	No. significant at .01	.05	Combined % significant
21	EPPS: Dominance	10	1	1	20
22	Verbal Aptitude	10	0	2	20
*23	MMPI: Si	24	3	1	17
24	MMPI: Hs + .5k	25	3	1	16
25	Instructors' ratings: Area studies	15	1	1	13
26	MMPI: F	25	2	1	12
27	MMPI: D	25	2	1	12
28	MMPI: ?	17	2	0	12
29	Training grade: Technical studies	17	1	1	12
30	Training grade: Health	8	1	0	12
31	MIAT	8	0	1	12
32	EPPS: Consistency	9	0	1	11
33	EPPS: Change	10	1	0	10
34	EPPS: Heterosexuality	10	1	0	10
35	EPPS: Aggression	10	1	0	10
36	EPPS: Achievement	10	0	1	10
37	EPPS: Succorance	10	0	1	10
38	Instructors' ratings: Physical training	11	0	1	9
39	MMPI: Pd + .4k	25	1	1	8
40	MMPI: Mf	25	1	1	8

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*See following page for 23a.

Table 4-4 (Cont.)

Rank	Predictor	No. of PC Projects	No. significant at .01	.05	Combined % significant
41	MMPI: Pa	25	1	1	8
42	MMPI: Sc + 1k	25	1	1	8
43	MMPI: Ma + .2k	25	1	1	8
23a.	Instructors' ratings: World Affairs	6	0	1	17
44	MMPI: Pt + 1k	25	1	0	4
45	MMPI: L	25	0	1	4

Amount of education, overall college grades, grades in major, verbal aptitude, and Modern Language Aptitude Test scores show almost no significant correlations with overall overseas effectiveness: for none of these variables are more than one-fourth of the validity coefficients significant; a total of five significant correlations was found in 42 correlations of one of these five variables with Overall Evaluation. However, in related research Cobb, Wrigley, and Kline (1966b, Table 2) found that the Assessment Summary Rating (apparently quite dependent on academic information) made prior to invitation to training correlated .17 with Overall Evaluation based on the third overseas rating for 3,254 Volunteers from various projects. The corresponding validities for Job Competence and Maturity as criteria were almost exactly the same, but the correlation with Leadership Skills dropped to .10. Validities based on earlier overseas ratings were slightly smaller, for the most part, than those just reported. These authors also found correlations of .12, .11, .08, and .05, respectively, of education completed, all college grades, college major grades, an~~d type of de~~gree with Overall Evaluation. Most items from the Volunteer Questionnaire administered as part of the Peace Corps application showed very slight correlations with overseas performance, but teaching experience had an r of .07 with Overall Evaluation.

Wrigley, Cobb, and Kline (1966b) analyzed seven measures expected to produce the best prediction of the criterion. Overall Evaluation, based on performance overseas, was correlated with the following predictors arranged from most predictive to least predictive: FBR, Peer Predictions of Success, (pre-training) Assessment Summary, Psychologist's Prediction of Success, combined classroom grades, combined Instructors' Ratings of Performance in

Classroom Subjects, and Peer Negative Assignment Preference. The r's were .24, .19, .15, .15, .08, .05, .05,respectively, for N s of 1,000 or greater combined from a variety of programs. Each coefficient was a mean of those obtained from the three rating periods for Overseas Evaluation.

In another analysis of combined data from several projects (14 in this case) Stern, Cohen, and Redleaf (1966, Table 12) found sizeable correlations for males between overseas effectiveness ratings and the following (Stern) Activities Index factors: Self-Assertion (r = .49), Applied Interests (r = -.55), Friendliness (r = -.36), and Expressiveness (r = .67). These correlations are apparently significant, but the sample sizes and significance levels were not reported. Too little information was available to permit comparable analyses for females.

Two Multiple Regression Studies of Overseas Performance

Hare (1966) has used the following as predictors of overseas performance ratings for 120 Volunteers completing service in the Philippines: GSS IQ score, General Survey and Conditional Personality Test scores, Final Board ratings, grades from the first of three examination periods during PC training, and peer nominations of Trainees best suited to represent them at a conference of Volunteers. The multiple correlation obtained with this predictive battery was .38 (shrunken R = .34). Hare provided evidence of higher, though not statistically higher multiple correlations for males than for females, based on separate regression analyses. Further subdivision by two regions of assignment as well as by sex yielded three multiple correlations higher than the .38 overall but a .01 validity for females assigned to the Bicol area. Quite possibly the larger multiple R's for sub-analyses reflect a statistical artifact and would be much reduced by a correction for shrinkage or use of an unbiased estimate of R^2. First order correlations made peer nominations for a conference representative the best predictor ($r = .32$), with other variables predicting as follows: IQ ($r = .28$), training grades ($r = .23$), teaching experience ($r = -.19$), Warmth of Personality ($r = -.17$), and Aggression ($r = -.17$). The final three correlations reported were in the opposite direction of that expected by Hare

Dicken (1966), studying prediction of Overall Effectiveness (7-point scale) for 51 community development Volunteers in Peru, found Rs ranging from .54 for two predictors (pretraining assessment and peer leadership) to .82 for 16 predictors. These Rs were not corrected for shrinkage. In the most serious case of overestimation, that for 16 predictors, the shrunken R would be .72.

Other multiple regression studies appear later in this chapter.

Consideration of Separate Predictors

Final Board as predictor. We have already noted in Table 4-4 that 53% of the studies summarized by Colmen, Kaplan, and Boulger (1964) showed a significant correlation (at the .05 level or better) between FBR and Overall Evaluation, a measure of performance in the field, as noted when it was defined in Chapter 2. There is inconsistency between their Tables 11 and 14, so this proportion may actually be as large as two-thirds. More recent studies which may or may not be included in the Colmen et al. report will be mentioned below.

Stein (1966), Smith (1964a) and Holtzman et al. (1966) all reported r's in the low thirties; Smith adds that the correlation for women ($N = 17$) was .58 ($p < .05$). Note that Smith had found a much lower correlation in the first year evaluation. Even for his second year evaluation data, just mentioned, the overall correlation reached the .10 level but not the .05 level of significance. Considering the great care with which Smith's overseas evaluations were made, particularly in the first year, this is a most disappointing finding. Holtzman et al. also found a significant superiority in Final Review Board ratings for 50 Volunteers who completed their tour of duty as compared with 22 who resigned or were discharged prematurely. Mischel (1965) found no significant correlation between Final Board ratings and Overall Evaluation overseas. Dicken (1969) found an r of .37 (N = 51) between FBR and the average of at least two Overall Effectiveness ratings (7-point scale) for community development workers in Peru, the r increasing to .47 when only the 28 females were considered and becoming insignificant when only the 23 males were.

Holtzman et al. explicitly stated that Peace Corps overseas raters in their study did not have access to any of the initial assessment ratings. There are cases, however, in which an overseas rater had also participated in the Final Review Board involving the same Volunteers as were rated in the field. Thus some positive correlations may possibly be attributed to halo effects from initial assessment ratings.

It should be emphasized that the above correlations and most others to be reported in considering the validity of Peace Corps selection procedures are quite small. Since the coefficient of determination is only .09 for an r of .30, less than one-tenth of the variance in overall effectiveness ratings is accounted for by FBRs, even though the Review Board had available a considerable mass of data on each Trainee. This strongly suggests that reasonably effective prediction of overseas performance can come only through the statistically combined applications of several individual predictors such as the multiple regression techniques discussed earlier in connection with the prediction of FBRs as criterion data.

At least three other considerations are involved in determining the validity of these predictors' restriction of range because of the use of FBRs and other selection devices, coarseness of measurement, and reliability of the predictor and criterion. Holtzman et al. (1966, p. 216) have commented upon the first factor, but no attempt seems to have been made to estimate its effects.

An upper bound on the degree of restriction of range comes from Myers' report that only about 14% of the applicants up to November 30, 1968 had been sworn in as Volunteers.[2] An indication of the degree of restriction of range due to Intermediate or Final Board ratings following admission to training comes from data presented earlier in this book, showing that 28.4% of Trainees failed to complete the training period successfully and go overseas.

Stein (1966, p. 177) has allowed for the coarseness of Final Board groupings by forcing a more coarse grouping upon references' ratings, thus showing that the latter variable is not inherently superior to the FBRs as a predictor of overseas effectiveness. An alternate approach would be to estimate the validity of FBRs using finer groupings (Guilford, 1956, pp. 329-330). However, this seems an idle statistical exercise unless one can conceive of a means of increasing the fineness of measurement as actually performed. This problem will be discussed in the course of treatment of reliability in the predictor and criterion.

A horseback estimate of validity for the FBRs when corrected for attenuation (unreliability of predictor and criterion) can be made as follows: Since the validity measurement extends across a period of almost two years from prediction to criterion measurement, reliabilities should be estimated on the basis of test-retest measurements over a period which is quite long, preferably approaching two years. Goldberg (1966) has reported correlations between three sets of Intermediate and Final Board ratings over a six week interval as .69, .65, and .65, an average of .66, which is a slight underestimate because some Trainees were terminated at the Intermediate stage. The square root of the product of this estimate times the .60 average, test-retest reliability of Overall Evaluation, reported by Wrigley, Cobb, and Kline (1966b) yields $\sqrt{(.66)(.60)}$ or .63 and is divided into the crude estimate of validity to correct for attenuation. Thus a validity coefficient of .30, representative of those cited above, yields a corrected value of .30/.63 or .48.

The validity coefficient, as corrected for attenuation, lacks practical value unless a means can be devised to make the reliabilities of the predictor and criterion measures approach unity. The most obvious possible procedure would be to increase the number of raters involved in each measurement. Though all Final Board members (about 7 to 9) participate in discussion of each case, the FBR, for the groups studied by Goldberg at least, is made by a single person, the Selection Officer. Except for the possibility that the Selection Officer is a distinctly better rater than the typical member of his board, we would expect the average of several raters to yield a higher reliability of FBRs and thus a higher validity. For example, use of the Spearman-Brown formula for nine Final Board raters, each with reliability equal to the .66 noted above would yield a reliability of .95, quite close to the unity value desired. Probably a maximum of two raters is practical for the overseas effectiveness ratings, which would increase the reliability from .60 to .75. These two revised estimates of reliability, used in the formula for correction of attenuation, lead to an estimated validity coefficient of .40 if the assumed number of raters were used and if indeed, the .66 represented the reliability of a single person's judgment.

A counter-argument might be presented to the effect that a Selection Officer who is responsive to the points raised in the Final Board discussion is an intuitive averager of ratings by the different members of the Board. We know of no evidence for or against this hypothesis; it seems to require an empirical test. One further argument in support of a single rater is operational rather than scientific: Only the Selection Officer was allowed to know the results of such confidential inquiries as the Civil Service investigation of each Trainee during the time Selection Officers were used by the Peace Corps.

The foregoing estimates may seem figments of statistical imagination. Note the following empirical information, however: Ezekiel (1968) found that reliabilities of overseas effectiveness ratings over a year period were .71 for a single rater and .79 for three raters the first year, but only one rater the second year. While significance tests on this increase are not available, it seems reasonable to guess that use of three raters on each rating might indeed have increased the reliability to the predicted Spearman-Brown value. Furthermore, Finlayson (1951) reports that quite a large number of raters are routinely used in Great Britain to increase the reliability of essay tests, and that empirical reliabilities are increased to the degree expected on theoretical grounds.

Finally, let it be noted that the averaging of FBRs from several individuals is a means of increasing the fineness of measurement desired earlier.

Peer ratings during training. The information on this point in Table 4-4 may be supplemented by reporting on individual studies. Holtzman et al. (1966, appendix G) found that overall evaluation and peer nomination for overall success correlated .19 for an N of 63 in Brazil ($p > .05$).

Bartlett, Stoloff, and Schneider (1967) found that four of six peer nomination items administered midway in training and a largely overlapping four of six items administered at the end of training correlated significantly ($p < .05$) with overall evaluation of 100 Volunteers who had served about one year in Nepal, Venzuela, or Brazil. The highest of these r's was .35, for Predicted Success nominations. Unfortunately, there was no item which proved significant for Volunteers in more than one country when separate analyses were performed for each country. This study also yielded significant correlations of Overall Evaluation overseas and mean popularity of those Trainees choosing a particular Trainee midway in training as Likely to Succeed and at the end of training as Having Leadership Qualities.

Dicken (1969) found rs of .50 and .40, respectively, (N=51) for peer nominations (leadership and overall) with Overall Effectiveness. All separate correlations for males and females were also significant except for the overall peer nomination for the 23 male Volunteers studied. Grande (1966) found a significant t between a mean of 40.9 peer nominations (which kind was unstated) for 17 Volunteers (from a training group of 62) rated as "superior" by overseas staff just before completion of service and a mean of 15.4 for 19 persons either selected out during training or rated "ineffective" overseas.

Dobyns, Doughty, and Holmberg (1966, pp. 287-294) found a strong significant relationship between initial peer ratings for Trainees who later became Volunteers in Peru and the number of institutions drawn into the field, strengthened, or founded by each Volunteer. The percentage of Volunteers ranking high on both measures was 35.7 whereas 38.1% ranked low on both, and 26.2% were inconsistent on the two measures. Similar findings were obtained for a later peer group measure during training.

Again, the reported validities of peer nominations must be considered deflated by imperfect reliability. Perloff and Gilmer (1964) report the reliability of overall peer nomination ratings over four weeks during training to be about .80.

Ratings by references. Boulger and Colmen (1964a) reported correlations between Overall Ratings by references and Overall Evaluations overseas ranging from -.05 for physicians as raters to .11 for job supervisors and .14 for academic raters, the latter two correlations being significant at the .05 level with 440 cases. Several sub-ratings such as Job Competence as rated by clergymen also correlated significantly with overseas performance. These authors did not give validity ratings for ratings averaged across all references for each PCV, nor were all test-retest reliabilities available. However, Stein (1966) reported a validity coefficient of .35 for the averaged rating, based on an _N_ of 47. In the largest study available, based on data from 1,772 Volunteers, Cobb, Wrigley, and Kline (1966b) averaged reference ratings of any one kind across all raters and correlated the result with each of four overseas ratings, finding that Job Competence had an average correlation of .19 with those criteria; Emotional Maturity had an average correlation of .16; Relations with Others had an average correlation of .13; and Overall Recommendation had an average correlation of .11. The Job Competence predictor was the best individual predictor of the Job Competence criterion (_r_ = .20); of Leadership Skills (_r_ = .15); and of Overall Evaluation (_r_ = .21) and tied with Emotional Maturity as a predictor of the Maturity criterion (_r_ = .19).

Grades and instructors' ratings during training. From Colmen, Kaplan, and Boulger (1964) and Table 4-4, we saw that the only course grade during training for which as many as one-third of the validity coefficients are significant is Physical Training, with six projects reporting significant correlations and one project reporting a very significant correlation, out of 21 projects studied. Four out of 15 projects showed very significant correlations between Language Instructor ratings and Overall Evaluation overseas. Two out of four projects reported very significant correlations between American Studies Instructor ratings and Overall Evaluation. Dicken (1969) found training grades in community development (the future job of the Trainees being studied) and physical education to correlate significantly with Overall Effectiveness overseas, the _rs_ being .43 and .32, respectively, (N=51). All separate sex _rs_ for these grades were significant except for physical education for the 23 males studied.

Full Field Investigation data, analyzed with or without other predictors.

[Considering first the univariate prediction of overseas ratings from specific scales based on Full Field reports, R. Jones (1967c) arranged for the coding of 135 such narrative reports on six useable scales: (1) Interpersonal Relationships, (2) Introversion-extroversion, (3) Psycho-social Adjustment, (4) Adaptability, (5) Initiative and Resourcefulness, and (6) General Ability, in addition to a Developmental-social History scale for which adequate data proved unavailable. Prediction of successful completion of training or successful completion of overseas service from these scales has been discussed earlier. We now examine overseas performance ratings as a function of these ratings.

A principal feature of Jones' study was the determination of unique contributions of three kinds of informants (neighbors, educators, and employers, with the latter two categories possibly including peers as well as superiors) to the prediction of Peace Corps performance. Jones employed the Campbell and Fiske (1959) multi-trait - multi-method matrix method of comparing intercorrelations, with kinds of informants constituting methods and scales constituting traits. The average intercorrelation of pairs of three judges' ratings on a single scale for data form a single type of informant ranged from .36 (Psycho-social Adjustment, neighborhood source) to .90 (Introversion-extroversion, employment source), with a median of .695. Convergent validities, defined as the intercorrelation on a single trait of one judge's ratings of information from two kinds of informants (also called respondents), ranged from .09 to .59 with a median of .32; all but three such validities being significant. (A significant discrepancy from a population r of 0 is a very weak requirement for a validity coefficient, of course.)

Prediction of four overseas evaluations (Job Competence, Language Fluency, Maturity, and Stability) were attempted with each of the six scales and with each of the six types of respondents. Of the 72 predictive validity coefficients thus obtained, seven were significant at the .05 level or slightly better. No significant validity appeared with any neighborhood information. Educators' judgments that a Trainee was extroverted or that he exhibited initiative and resourcefulness were slightly predictive of high language fluency. Information from employers provided a surprise: four of the five significant predictive validities were counter-intuitive in direction. General Ability, as inferred from employers' reports, was negatively correlated with PC Job Competence and Language Fluency. Good interpersonal relations as reported by employers was negatively correlated with favorable overseas ratings in maturity and stability. However, being extroverted, as judged from employers' reports, did correlate positively with Language Fluency ratings. Since the significant predictive validities range only from .20 to .32 in absolute value, we omit discussion of Jones' very tentative attempts at explanation of their direction.

In R. Jones' (1968d) Sample A of 110 men and 69 women, factor scores for each sex showed significant correlations of two factors each with overall performance ratings overseas (apparently the standard Overall Evaluation ratings): For men, good motivation and poor psycho-social adjustment were indicative of good performance. For women, poor motivation and some foreign travel were predictive of good overall performance. In addition, for men only, the overall rating on the Full Field Investigation and the number of non-recommendations or qualified recommendations were significant predictors in the expected direction. The only significant relationship between Full Field indices and Language Fluency as rated by overseas administrative personnel was a .24 correlation indicating greater fluency for Volunteers with some foreign travel.

Now we turn to a step-wise multiple regression study of the Full Field Investigation. R. Jones (1967a) studied 122 Volunteers serving in community development projects in four Latin American countries. Two criteria of performance were developed by factor analyzing standard overseas rating data; (1) Overseas Overall Performance was the first orthogonal factor, and (2) Overseas Language Fluency was the second. Jones studied 20 of 31 coded measures from the Full Field Investigation reports and six of 27 predictors available from the training stage of service, the latter including such material as course grades, instructor evaluations, and personal interview ratings during training. It is important to note that neither letters of recommendation nor the Assessment Summary Ratings based in part on those letters were used as a predictor in this study.

Jones found that Overseas Overall Performance was predicted with a multiple R of .59, based on both kinds of predictors, and R's of .42 and .48, respectively, based only upon Full Field data or only training data. (Apparently unshrunken R's were reported.) The proportion of variance accounted for, R^2, is not quite doubled by using both kinds of predictors rather than using only one kind. Though overall prediction is equally effective for either sex, Full Field data appear to be substantially more useful in the prediction of female PCV performance and training data appear to be more useful in the prediction of male PCV performance if separate multiple regression equations are established for each sex. For females the prediction based on Full Field data is as good as that made with Full Field data and training data combined.

Jones found a multiple *R* of .63 with Overseas Language Fluency, based on both sets of predictors, and of .46 and .50, based on only Full Field data or only training data, respectively. With this criterion, prediction was systematically superior for males, who had *R* values from .12 to .19 greater than women, depending upon the data used for prediction. Cross-validation studies are needed with both criteria before definite conclusions can be reached. However, it would seem plausible to suppose that use of quantified Full Field data in addition to training data and use of separate regression equations for men and women could noticeably improve prediction and therefore possibly increase average overseas performance or reduce attrition by improving selection. This supposition would have to be checked against experience with these criteria. This may be difficult with overseas performance ratings, since such average ratings may shift with changes in quality of Volunteers provided. We note contrary evidence shortly and particularly emphasize now that much of the contribution of the Full Field Investigation in the present study could have been obtained with letters of recommendation as a predictor.

Fitch (1967) performed a study like that of Jones (1967a) in predicting overseas performance from a variety of variables -- 36 Full Field items, quantified by him; 19 reference form items; and 16 items from PC testing and a questionnaire. A cross-validation design was employed in order to permit development of predictive equations with one set of 25 Volunteers and to check their effectiveness with an independent set of 25. The Volunteers studied served in Peru or Malaya and had been judged as strong or weak by the Division of Evaluation of the Peace Corps.

Fitch employed a principal components analysis followed by a multiple regression analysis of factors with the criterion. Five factors were extracted, permitting calculation of the loadings of the criterion on each factor. A cross-validation procedure and calculation of regression weights for factors yielded an $\underline{R}$ of .49 on the second sample, comparing favorably with the $\underline{R}$ of .42 Jones found without cross-validation, using only Full Field data in predicting his Overall Overseas Performance factor scores. Fitch obtained a .45 correlation (corrected for grouping) between FBR and his criterion using his second sample but did not combine FBR and Full Field data to make a composite set of predictions.

One aspect of Fitch's data serves as a warning to persons not performing cross-validation of their predictive equations: Fitch reported validities for 69 separate items for each of his two samples. In 23 cases the sign of the validity coefficient changed from the first sample to the second, suggesting caution in passing judgment on the basis of a particular item even when it appears to have a substantial validity in a single sample.

Most of the research on the Full Field presented to date has emphasized its potential predictive usefulness when coded to permit quantitative analysis. We now turn to negative information on this point. R. Jones (1969a) has compared 417 Volunteers given overseas assignments without the benefit of Full Field data (since Civil Service investigators had not had time to complete study of those cases) and 389 Volunteers who had passed the Full Field screen before overseas assignment. Validation data from a 17-item Overseas Staff

Questionnaire (OSQ) were returned for only 54% of the Volunteers being investigated, providing criterion information for 226 Volunteers in the so-called No Full Field Group and for 209 in the other or Control Group. Jones (1968b) had already formed a 5-item cluster called General Performance, a 4-item cluster called Satisfaction, and a 3-item cluster called Extra-job Activity from those parts of the OSQ which correlated highly with each other. These three clusters are not independent, having pairwise correlations of from .46 to .73. Each cluster score may be viewed, nonetheless, as an indication of a Volunteer's quality of performance. On none of the three cluster measures is there a substantial or a statistically significant difference between group means. This suggests that the Full Field Investigation was not needed as a selection device if these criteria were the only ones of importance. (No doubt other criteria were operative in the decision to require the Full Field. For example, it is useful to Peace Corps administrators to be sure in the case of political controversy about a Volunteer that the Corps be better informed about the PCV's background than his attackers.) Note that selection was not statistical in either the No Full Field Group or the Control Group, making comparison to Jones (1967a) questionable.

Jones (1969c, Table 9) found multiple correlations for 327 male Volunteers and 181 female Volunteers of from .17 to .40, depending upon the criterion used and the sex of the Volunteers being studied. These multiple correlations, which have been reported after correction for shrinkage, were based on 11 predictors available before training and eight different criterion measures from the OSQ. Exclusion of the Full Field predictors only reduced these multiple correlations by a maximum of .10, with a typical reduction of .02 to .04. One reason the Full Field data added so little to predictive efficiency is that the ratings from letters of reference were included as a separate predictor. Since the reference letters and Full Field data came in large part from the same people, they were partially redundant measures, thus reducing the independent contribution of the Full Field when added to the other predictors.

A 25-measure (mostly clusters of items) Overseas Volunteer Questionnaire (OVQ) was also employed in the study under discussion. Enough substantial correlations between OSQ and OVQ measures existed to warrant use of the OVQ as a criterion measure rather than simply as a picture of Volunteers' assessment of their circumstances. Multiple correlations between OVQ criteria and predictors were of the same order of magnitude as those just reported.

This study is a particularly good example of much Peace Corps research in which canonical correlation techniques would have been applicable. There are a set of predictor measures and a set of criterion measures; canonical correlation could determine the highest attainable correlation between any weighting of predictors and a separate weighting of criteria. This procedure could also be of assistance in defining an overall criterion of performance, which is often taken simply as the Overall Evaluation score assigned by Peace Corps staff members to a Volunteer.

R. Jones (1967c) has reported two studies of idiographic Full Field content, i.e., analyses of items which might appear for only one or a small percentage of PC applicants. In the first study 487 "special events" items such as "Once studied in a seminary" were listed on a rating form so that eight judges could rate each item on a 9-step scale of favorableness for PC success. Adequate reliability was indicated by correlations between one rater and another ranging from .56 to .82. Then the idiographic items for each of 135 persons with at least one special events item were segregated by person. Average ratings across items for each judge were used as a basis for assigning eight scores to each person being rated, one score per person per judge. These average ratings were then correlated with eight overseas performance criteria plus a measure of attrition sometime during training or overseas service. Validities were all near zero except on two criteria and were about equal for each judge. The attrition criterion (N = 131) was predicted with an average correlation of .26, and language fluency (N = 96) with an average correlation of .27, with raters having the favorable end of the Full Field scale correctly identified. Jones missed an opportunity to check for beneficial effects of number of raters; he could easily have obtained an average across raters for each Volunteer and checked the validity of these ratings as well.

In the second study, R. Jones (1967c) first found that several idiosyncratic items could be coded because, like "travel abroad," they occurred often. For 196 applicants who had uncodable items, nine judges scored each subject's set of uncoded items as a unit, predicting anywhere from low to high probability of Peace Corps success for each applicant. Interjudge reliabilities ranged from .42 to .79. Validities for the different judges, i.e., correlations of the predictions with occurrence of training or overseas attrition, ranged from 19 to .30, with predictions being in the correct direction.

Personality tests. Again using the criterion of requiring that one-third of the projects studied report significant effects if a variable is to be considered predictive, we find no evidence in Colmen, Kaplan, and Boulger (as reflected in Table 4-4)for predictive power in any of 14 scales of the Minnesota Multiphasic Personality Inventory; in Barron's Ego Strength Scale; the Taylor Manifest Anxiety Scale; or the Levinson F-Scale. Among six dimensions of the Allport-Vernon Scale of Values, 18 scales of the California Psychological Inventory (CPI), 16 scales of the Edwards Personal Preference Schedule (EPPS), and 10 scales of the Guilford-Zimmerman Temperament Survey, only two scales reached or surpassed our criterion: Two out of four projects found significant validity for Achievement-conformity (CPI) and two out of four found significant validity for Masculinity (Guilford-Zimmerman). Finally, on 13 scales of the Holland Vocational Preference Inventory, two (Emotionality and Control) each showed significant validity for one out of three projects studied. Not all the scales just discussed are mentioned in Table 4-4.

The ineffectiveness of these tests as predictors is confirmed, on the whole, by the individually published studies on the topic. Stein found no significant validity for the Levinson F-Scale, the Ego Strength Scale, or the Manifest Anxiety Scale. Smith (1965a) reported small, nonsignificant correlations of Levinson's F and Derived F (an alternate and presumably better measure of authoritarianism because it does not have all its items worded in the authoritarian direction) with Overall Evaluation at the end of one year and at the end of two years. However, Smith's Ghana II study (1964a) showed significant positive correlations between Derived F and Overall Effectiveness for the total group of PCVs and also for the men in the group, at the end of two years' service; but neither group showed significant correlations at the end of one year's service.

For Ghana I Volunteers, Smith (1964a) found no validity for the Ego Strength Scale or the Manifest Anxiety Scale but some predictive power for some of the 20 need scores in the Stein Self-Description Test or of pooled scores (cluster scores) from several needs. Six scores plus two cluster scores showed some predictive power, but the only consistent trends were for Need Deference (though relatively low in all PCVs studied) to be slightly higher for Volunteers rated higher in Overall Evaluation, both in the first year and second year evaluations; significantly so in the case of men alone. Also, Need Play was negatively correlated with Overall Evaluation for men in the first year. In second year evaluations, women showed significant positive correlations of Overall Evaluation with Need Exhibition and Need Infavoidance, but significant negative correlations with Need Nurturance and Need Succorance.

In part of the same project, Ezekiel (1968) found that five scores on his Mock Autobiographies task each correlated almost significantly ($p < .10$) or better either for men or women or men and women combined in at least one of the overseas evaluation. The total score based on all five original scores seems particularly promising, having a correlation of .29 ($N = 42$, $p < .10$) for the first year evaluations and of .41 ($N = 39$, $p < .01$) for the second year evaluations, with men and women combined for these analyses. Ezekiel (1968) found that though Protestant and Catholic Volunteers in Ghana had almost identical mean field evaluation scores, they differed greatly in the degree to which the Mock Autobiographies task administered during training could predict those evaluations. Nine of 12 pairs of correlations exhibited larger r's for the Protestant subgroup than for the Catholic subgroup.

The autobiographical task consisted of (1) the description of one's plans for the next five years had he not joined the Peace Corps, (2) an essay written as if five years had passed, describing the Volunteer's life in the three years after Peace Corps service, and (3) a mock autobiography for the respondent's fortieth year. The scoring procedure emphasized three measures: Differentiation (complexity of portrayal of each period of life); degree of Demand (how much the foreseen future involved a continuing response to challenge); and degree of Agency (how much the Volunteer saw himself as the agent of major decisions in his future life).

This scoring procedure possibly leads to scores correlated with religious background, for Ezekiel suggests that it is characteristically Protestant to emphasize advancement, achievement, and future orientation; whereas many Catholic Volunteers may reflect a religious training which emphasized service. We believe the latter orientation may also hold true in some pietistic or very devout Protestant homes. Ezekiel's explanation, based as it was partly on interview impressions, seems a plausible hypothesis, though it is weakened somewhat by its failure to find significantly smaller mean autobiography scores for Catholics than Protestants on any scale except Demand.

Smith (1964a, p. 105) had hesitations about validity measures on Ghana II Volunteers because of the low intercorrelations across raters over a one-year period. This factor may explain a much smaller incidence of significant validities for the Mock Autobiographies. There is some evidence in the Ghana II study for predictive validity of several MMPI and CPI scales, but it is not consistent from year to year. The Barron, Taylor, and Stein Scales were not administered in the Ghana II study, so comparisons to Ghana I findings are impossible.

Holtzman et al. (1966), in studying the predictive effectiveness of the Holtzman Inkblot Test, the Edwards Personal Preference Schedule, and the Levinson F-Scale, found three significant correlations of personality scores and Overall Evaluation; the scores being the Holtzman C score and the Edwards Order score (which correlated negatively with effectiveness) and the Edwards Nurturance score. Guthrie and Zektick (1967) found no correlation of greater than .13 in a study of eight special MMPI scales as predictors of final performance overseas. Dicken (1969) found an r of .31 between the Crutchfield Figures (a test of perceptual and cognitive flexibility) and Overall Effectiveness (N=51); also an r of .32 between the MMPI Ego Strength Scale and the criterion. Neither of the corresponding correlations for 23 males was significant, however. Dicken also found an r of .27 for the Gough Dominance Scale, of .30 for the Gough Social Presence Scale, and of .31 for the Gough Tolerance Scale, each correlated with Overall Effectiveness (N=50). However, none of the corresponding rs for 23 males was significant. Ten other Gough scales and a clinical evaluation of Trainees' MMPI responses failed to correlate significantly with the criterion.

The performance of personality tests as selection devices must be considered disappointing even if part of their low validity results from restriction of range, or from unreliability of the criterion, as noted earlier. Smith (1966) has concluded that most of the trainees excluded from the Ghana I project on psychiatric grounds would have performed creditably in the field. He interprets the Peace Corps environment as one in which quite diverse personality types can be effective, simply by using their strong points to best advantage.

The many divergent Peace Corps findings on specific tests (though most of those studies are not formally published) make it evident that a single demonstration of significant predictions from a personality test to overseas effectiveness cannot be considered definitive. It should also be noted that the significant correlations, when found, have usually indicated fairly small relations between variables, rather than being correlations high enough to be of substantial use. Thus Wrigley, Cobb, and Kline (1966a) report that the average intercorrelation of 12 measures of overseas performance (Job Competence, Maturity, Leadership Skills, and Overall Evaluation, each rated three times) with the 16 scales of the Edwards Personal Preference Schedule, based on numbers of Volunteers on the order of 300 to 1300, ranged from -.09 for Order to +.10 for Achievement. Similar intercorrelations for the MMPI with Ns on the order of 2500 to 4000 range from -.06

for Psychopathic Deviation to +.02 for Paranoia. The Ego Strength Scale correlated [illegible]05 with average overseas rating based on Ns on the order of 800 to 1300, depending upon the time of overseas evaluation, and the Levinson F-Scale had a comparable correlation of -.04, based on Ns of about 1250 to [illegible]000.

These disappointing findings are consistent with comparable material from the field of industrial psychology: Guion and Gottier (1965) summarized all validity studies of personality measures published in the Journal of Applied Psychology of Personnel Psychology from 1952 through 1963. Among the studies of predictive validity (correlation of a test with a later measure of job performance), only 10% of the correlations reported for personality tests like those discussed above were significant. The only projective test for which predictive validity was determined yielded significant correlations ranging from .31 to .66, depending upon the criterion employed and the job assignment of the group studied. Investigation of specially constructed inventories such as the Job Preference Blank (Kriedt & Gadel, 1953), yielded significant predictive validity in 56% of the analyses made; the comparable percentage for personal history data blanks was 42. The superior validities in the last two categories are attributed to the inventories being tailor-made for specific selection purposes and being cross-validated in the process of development. Guion and Gottier (1965, p. 159) state, "Of greatest importance, it must be concluded that, taken as a whole, there is no generalizable evidence that personality measures can be recommended as good or practical tools for employee selection."

In view of Guion and Gottier's findings and interpretations (presented most sketchily here) and of the Peace Corps' experience with existing personality tests as selection devices, it seems reasonable to suppose that the Peace Corps would be well-advised to develop personality tests specifically intended to predict Volunteers' overseas performance, with each item receiving validation and cross-validation. Even this procedure may not be helpful, however.

The one specially constructed personality test employed by the Peace Corps is the Biographical Data Blank (Krug, 1962a, 1962b), described in Chapter 2. Two of the five scales from that test (BDB, as it is often called) merited inclusion in Table 4-1, showing a significant correlation with FBR in 17% and 22% of the projects studied. However, one of the three significant validity coefficients with the General Suitability scale of the BDB was negative. Even after empirical revision (Krug, 1962b, pp. 25-26), only the General Suitability scale showed validities (in predicting FBRs) consistently as high as .18 for three analyses using, respectively, 76 persons trained for agricultural and rural development; 181 persons trained for teaching projects; and 115 persons trained for multi-purpose projects. Any improvement upon this performance would have to result from further statistical refinement (true cross-validation remains to be performed, and validities based on pooling persons from the three kinds of projects would be desirable) or from use of additional types of items, the BDB being primarily an index of various types of activity and accomplishment and different kinds of interest.

Goldberg (1965) has illustrated a useful approach to personality testing in the Peace Corps. Having found that none of seven peer nomination questions was closely related to any California Psychological Inventory (CPI) or Minnesota Multiphasic Personality Inventory (MMPI) scale, he decided to study peer nomination items constructed to refer explicitly to characteristics supposedly measured by a given scale. The question then became whether self-report from the CPI would correlate highly with peer-report on the same trait. Ten peer nomination items were used, identifying the most and least dominant, sociable, responsible, tolerant, and flexible Trainees as perceived by other Trainees. Composite scores were obtained based on _most_ and _least_ scores on each of five traits, and the composite scores were correlated with five CPI scales of the same name, a separate correlation being obtained for the 22 males and for the 37 females studied. Composite Dominance ($r = .51$), Sociability ($r = .33$), and Responsibility ($r = .26$) were significantly ($p < .05$ or better) related for females on the CPI and peer nomination measures. For males, only composite Flexibility ($r = -.34$) was significantly related of the two measures. Note that this correlation (as well as nonsignificant ones for composite Responsibility and composite Flexibility) was negative, indicating that males tended to report themselves as the opposite of the way others reported them.

Goldberg's research provides some validation for at least three CPI scales applied to female Trainees. However, he notes that the favorable evidence just reported must be balanced by the fact that, except when predicting peer-nominated Dominance, for each of the traits there was a CPI scale which correlated more highly with the peer nominations of that trait than did the CPI scale with the trait name desired. This leaves us in doubt as to the usefulness of CPI scales even for prediction of perceived behavior of the same name as a trait. Possibly continued research in the Goldberg fashion could noticeably improve predictions from personality tests. We re-emphasize, however, that these personality tests were not devised for use in Peace Corps selection, making it unreasonable to be critical of them for failing as selection devices regardless of whether or not we expect self-report with a multi-item test to correlate with another's report without a test. What may be the problem here is that use of the same name with two measures has misled us; perhaps persons should answer the CPI with respect to their peers as well as themselves rather than rating their peers by a different procedure.

Two other studies of personality have indirect relevance to Peace Corps selection. Armilla (1966, 1967) attempted to predict self-reports by Volunteers in Latin America. His first report showed that, with family size held constant, first-born Volunteers had higher Social Participation scores than second-born Volunteers. This effect was significant at the .05 level or better for 3-child families and for 4-child families or more. In addition, Armilla (1966) found that early responses to his questionnaire came predominantly from first-born Volunteers, confirming other studies performed outside the Peace Corps which indicate that first-born persons are more likely to serve or are more prompt in volunteering to serve as subjects in research projects.

The Social Participation scale employed in Armilla (1966) consisted of eight items focusing on contacts with host nationals. In his next study Armilla (1967) used a different Social Participation scale as a predictor of Social Leadership. Scores on this scale and seven other special scales of the MMPI were available in the Peace Corps' Washington office and could be compared to questionnaire responses obtained from 75 Volunteers during their Latin American service. Questionnaire responses yielded both the Social Leadership criterion score and a control variable score for Group Cohesion -- the Volunteers' judgment of the social dynamics of the group he was trying to serve. Armilla hypothesized that in a group with weak group cohesiveness, a Volunteer with high potential for social leadership would be more active than a Volunteer with low potential. He further assumed that in a group with high cohesiveness, there would be less premium for a Volunteer to be socially active, making the prediction of leadership activity from personality traits more difficult.

At first look this hypothesis appears to have been confirmed; Armilla (1967) found that Dominance and Social Participation each were significantly related to Social Leadership, with a multiple *R* of .34 resulting from the overall regression analysis. However, when only the 36 Volunteers who could be classified as working in situations with weak group cohesion were considered, the multiple *R* increased to .44. Apparently these two *R*'s were not corrected for shrinkage. Such a correction would reduce the *R* for the total sample to .15 and the *R* for the weak group cohesion condition to 0. Thus the Armilla theory must be regarded with extreme caution.

Age of Volunteers. Allard and Wrigley (1965c) have reported preliminary indications from data on 222 Volunteers to the effect that older Volunteers have more education, more evidence of work skills prior to Peace Corps training, and are rated as more suitable prior to training. Eleven correlations in this vein range from .17 (suitability and age) to .41 (proficiency in primary skill and age) with significance at the .05 level or better in each case.

Allard and Wrigley also provide evidence regarding the relation of age to overseas evaluations on Form 298 (described in Chapter 2). Here the picture is reversed, and the younger Volunteers appear more satisfactory, though not strikingly so. All but one of 16 correlations are in a direction indicating superior performance, assignment to more difficult or isolated posts, or being better known to the rater as a function of decreasing age. Of eight measures obtained on the second overseas rating, only two (being in a job where a working knowledge of a foreign language is essential and being well-known by the rater) were significantly ($p < .05$ or better) related to age. However, all eight measures based on the third overseas rating were significantly related to age, with showing personal development ($r = .28$, $p < .001$) and being given a favorable overall evaluation ($r = .14$, $p < .05$) being of special interest since the personal development trend with age had been reversed ($r = -.01$) on the second measure and since Overall Evaluation is the fundamental criterion of overseas performance.

The correlations of age and performance, being relatively small even on the third overseas rating, seem at first glance to be unimportant. However, when we consider the fact that motivation, personality and skills, not age are considered the crucial factors in selection and that the Volunteers were highly selected before and during PC training, presumably producing restriction of range of overseas performance scores, the trends observed by Allard and Wrigley seem of potential importance, especially if supplemented by future studies with larger sample sizes as those authors themselves recommend.

If this indication of superior performance overseas as a function of decreasing age (on a five-point scale for 18-21, 22-24, 25-27, 28-30, and 31 years or over) is substantiated, it will represent one of the most counter-intuitive findings in Peace Corps research. We say this partly because of evidence already presented that the older Volunteers were rated higher prior to training and partly because of evidence mentioned earlier (Krug, 1962a, p.22) from a sample of 872 Trainees showing a monotonic upward trend in percentage of above average Final Board ratings year by year through age 25 with a sharp decline at age 26 and relatively high ratings for 27-28-year-olds and for persons older than 28. We note, also, a shred of evidence directly contradictory to Allard and Wrigley: Smith, Fawcett, Ezekiel, and Roth (1963) found that 7 PCVs, aged 26-34 at the time of entry into the Peace Corps, received significantly higher mean effectiveness ratings for service in Ghana than 33 younger PCVs in the same project. Similar correlational trends from the same study are reported by Smith (1964b, p. 29) for the Ghana I project only.

Miscellaneous Measures. Ezekiel (1968) found, with about 34-49 Volunteers being studied on various measures during teaching service in Ghana, that the Overall Evaluation rating at the end of the first year of service correlated .79 with that rating at the end of the second year of service, with frequency of peer nomination doing a particularly good job correlating .61 and .58, respectively, with these two ratings. (The Overall Evaluations for the first year were the sum of three independent judgments, but for the second year were based on only one rating.) This shows a partial consensus among peer and superiors' judgments, rather than a new successful predictive variable. One of Smith's (1964b) reports on the same project has also shown that psychiatrists' ratings of the Trainees who eventually went to Ghana correlated -.02 (*N* = 44) with second-year administrative evaluations of overseas performance, indicating near zero validity for those ratings. Although the statistical significance of sub-analyses is difficult to assess, the psychiatrists' judgments may be useful for predicting performance for certain Peace Corps assignments: the corresponding correlations for Volunteers teaching in the city (*N* = 12); "bush" (*N* = 16); and intermediate regions (*N* = 16) were +.54, -.36, and -.02, respectively. Comparable values for psychiatrists' ratings correlated with first year administrative evaluations were +.63, -.51, and +.32, with _N_'s of 13, 18, and 18, respectively, with an overall _r_ of .04. Possible explanations of differences due to location are readily available; it may be premature to consider any of them pending replication of the effect. The two years' data can hardly be called replications of a single finding since there is an inconsistency in the sign of _r_ for the intermediate locations.

Fisher, Epstein, and Harris (1967) have reported further analyses of the data from Smith's Ghana project. They found higher average reliabilities among the field raters of overseas performance (_r_ = .60 to .71, with a median of .65)than the .25 to .41 values reported by Harris, Fisher, and Epstein (1963) for pairs of psychiatrists rating the original group of Trainees before selection and assignment of accepted Volunteers to overseas posts. The field rater reliabilities were obtained for each of the six characteristics in the Rating Scale for Overall Performance, with Overall Evaluation being the measure of primary interest. Presumably, the higher reliability of field evaluations reflects longer acquaintance with ratees; the possibility of halo effects; and greater specificity of performance as contrasted to prospective performance. Fisher et al. (1967) included both the psychiatrists' ratings and field ratings in a single cluster analysis, with the interesting result that the first cluster proved to include all six criterion ratings scales and to account for 58% of the total variance. The second cluster included all five of the predictor scales used by the psychiatrists and accounted for 37% of the variance. These clusters were orthogonal to each other, again indicating the lack of validity of psychiatrists' ratings in predicting overseas performance (except perhaps for Volunteers teaching in the city, as noted

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earlier).

Nonsignificant correlations between Overall Evaluation and self-reports of morale appeared in each of the two years of Ezekiel's (1968) investigation. Factor analysis of Q-sort deck data yielded a first principal component factor entitled Competent Teaching in Africa, based on a deck of questions about role-performance, and a first factor entitled Self-confident Maturity, based on a deck of questions about the Volunteer's personality structure. Scores on these two factors, determined separately each year, generally showed significant correlations of about .28 with Overall Evaluation.

Smith, Fawcett, Ezekiel, and Roth (1963) in a report on the same overall research project as in the last two references cited, found that average morale of 51 Volunteers was lowest after eight months of service in Ghana, as compared to morale ratings after six and after ten months of overseas service. This trend held for eight of nine questionnaire items with rotated first principal component loadings (which were relatively high) indicating that they did measure morale. On the final administration, the morale questionnaire yielded significantly higher mean scores for the 6 Jewish Volunteers than for the 21 Protestant Volunteers, with 12 Catholics having intermediate morale scores. On two of the three testings, the nine Volunteers assigned to cities showed significantly lower mean morale scores than the 32 Volunteers assigned elsewhere. Neither of these variables were predictive of rated effectiveness of Volunteers. However, science or mathematics teachers (N = 14) showed significantly higher mean Overall Effectiveness ratings for the three combined rating periods than did the other teachers (N = 27).

Stein (1966, pp. 180-195) has given some evidence that different personality types of Volunteers, defined from Self-description Questionnaire information (indicated early in this chapter), have different degrees of success in overseas assignments. Nine Intellectually Oriented Volunteers had the highest mean effectiveness ratings; 4 Unconventional Volunteers had the next highest mean; 17 Socially Oriented Volunteers had the next highest mean effectiveness; and 7 Action Oriented Volunteers had the lowest, with an intermediate value for 5 Resourceful Volunteers. Both t tests comparing the Action Oriented to the Intellectual or Social group showed significance at the .05 level or better. Interpretation is handicapped because no overall F test was performed -- 20 separate t tests are possible among five groups, and if they were independent, which they are not, one would have expected one significant result out of the 20 by chance.

The poor performance of the Action Oriented group is of interest because Stein earlier noted that all members of this group successfully completed PC training. Stein writes that personality theory suggests that this group emphasizes power, status, and control. Anecdotal evidence suggest that Action Oriented Volunteers in the Colombia community development project under study were less effective than other groups because of these tendencies in their personalities. The Final Selection Board is thought to have been impressed with them because of their "achievement motivation, self-confidence, and control over impulse life" (Stein, 1966, p. 191). (Control over impulse life seems to mean attention to long-term rather than very short-term goals.) However, Stein indicated that these traits were not as useful overseas as might have been thought-- the Volunteers needed more patience and the ability to help host nationals take leadership for themselves.

Stein notes that Final Board ratings within the Action Oriented group and within the Socially Oriented group were substantially and positively correlated with rated Overall Effectiveness. Predictive failures within other groups may be due to small sample sizes or to different factors controlling effectiveness in different types of people. Stein speaks of the latter problem as suggesting the use of types as a moderator variable, citing methodology summarized by Saunders (1956). Such methodology seems appropriate for use, preferably with greatly increased sample sizes for each type to be studied.

Colmen, Kaplan, and Boulger (1964) have summarized the relationships between various ratings by psychologists during training and Overall Evaluation overseas. Of 16 projects, six showed a significant correlation ($\underline{p} < .05$) of the psychologists' Prediction of Success variable and Overall Evaluation; of 17 projects, eight showed a significant correlation of Interpersonal Relations and Overall Evaluation; of 12 projects, six showed a significant correlation of Morale and Overall Evaluation. Other predictor variables used by psychologists were less valid.

Bartlett, Stoloff, and Schneider (1967) found that an interview rating form developed by Bartlett, Walder, Schneider, Stoloff, and Voytas (1966) for use by the Field Assessment Officer during training showed a significant ($\underline{p} < .05$) correlation of .24 on its Competence rating as a predictor of Overall Evaluation overseas after about one year of service in Nepal, Venezuela, or Brazil by 100 Volunteers. Within-country analyses showed the corresponding correlation to be significant in Venezuela but not elsewhere. Three other interview items proved significant predictors for a single country but not for all combined; two items, including the Overall rating, were never significant predictors.

Changes in Overseas Performance

Allard and Thiel (1966) have provided evidence of a slight improvement in overseas performance from the third to the ninth to the 21st month rating on certain characteristics. One caution should be expressed about the data which will be presented: Variation in the number of available Volunteers' ratings (3,590; 4,360; and 3,275 for the first, second, and third rating periods) means that average ratings at different times reflect somewhat different Volunteers' performance. Had the three *N* s just reported shown an orderly decline, we could have supposed that more persons who would leave the Peace Corps prematurely were represented in the first ratings, somewhat less in the second ratings, and almost none in the third. In that case average ratings by period would partially reflect differential performance of Volunteers who would and would not suffer attrition. This factor may be present in the data below, but we will presume that the major factors in the trends reported are means of changes within individual Volunteers.

Insert Table 4-5 about here

Table 4-5 shows mean ratings on representative characteristics from the Allard and Thiel study. Ideally each measure of performance should show a statistically significant improvement in means between the three and nine month ratings and between the nine and 21 month ratings. This occurred only for Foreign Language Fluency. However, Job Competence, Relationship with Host Co-workers, Leadership Skills, and Overall Evaluation all had their most favorable mean ratings on the final occasion. In each of these cases there was a significant ($p < .01$) improvement from nine to 21 month mean ratings. We must beware, however, of concluding that these improvements are substantial. Even the .24 overall mean gain in Foreign Language Fluency is less than one-fourth of a standard deviation in magnitude. Several of the other significant

Table 4-5

Trends in Ratings Assigned Volunteers by Staff Members

After Three Amounts of Overseas Service

(From Appendix C of Allard and Thiel, 1966. No datum reported here is based on less than 2,725 ratings. Used by permission.)

Characteristic	Range of Possible Scores[a]	Months of Overseas Service 3	9	21
Rater's knowledge of Volunteer	1 to 4	1.94	1.80**	1.68**
Job competence	1 to 6	2.52	2.52	2.41**
Activity in supplementary special projects	1 to 5	2.59	2.60	2.59
Need for foreign language competence	1 to 3	1.49	1.61**	1.69**
Foreign language fluency	1 to 5	2.90	2.79**	2.66**
Relationships with host co-workers	1 to 6	2.41	2.45**	2.32**
Leadership skills	1 to 5	1.99	2.01	1.97**
Overall evaluation	1 to 6	2.84	2.87	2.76**

[a] Favorable ratings have small values, as do much knowledge of the Volunteer and much need for language competence.

** A *t*-test between this mean and the immediately preceding one on this characteristic is significant at the .01 level.

gains are simply minuscule, making the finding of improvement more of intellectual than practical importance.

Prediction of High Ratings by Local Residents

When Lynch, Maretzki, Bennett, Bennett, and Nelson (1966, Table 14.4) correlated the average ladder ratings made by local residents concerning the performance of individual PCVs teaching in the Philippines with characteristics of those Volunteers, they obtained the following findings: Of 18 measures obtained prior to the completion of training in the U.S., three (teaching experience, farm experience, and language instructor evaluations) were significantly related to average ladder ratings. In each of these cases greater experience or a higher evaluation was predictive of better performance overseas, as judged by the local residents questioned. Lynch and his co-workers (1966, pp. 309-310) attribute the significant correlation between ladder ratings and language instructor evaluations to the fact that the language instructors were Filipinos and apparently rated the overall acceptability of the Trainees rather than just their language competence.

Final Board ratings were not significantly correlated with the overseas criterion now under consideration. Nor were age, sex, race, civil status while on teaching assignment, educational attainment, athletic experience, outdoor skills, foreign experience, the Volunteer's assignment preference, his purpose for becoming a PCV, his training group, instructor evaluations in technical skills and area studies, or the prediction of success as a PCV.

The principal new contribution of this ladder rating analysis is that the background characteristics of teaching experience and farm experience, which received little attention in studies reported earlier, seem indicative of good performance in overseas teaching positions. Lynch et al. emphasize that a major criticism by local residents, especially professional teachers and school administrators, was that Peace Corps Volunteers who were sent to the Philippines to help improve the school system by working in pairs with local teachers in the same classrooms generally had no teaching experience or teacher training. Thus the predictive value of amount of teaching experience seems understandable. Lynch and his associates (1966, p. 309) do not consider that farm skills per se aid the Volunteer. Rather they suggest that farm experience may lead the Volunteer to accept rural conditions overseas or to see interesting connections between those conditions and his earlier environment.

Guthrie and Zektick (1967) have reported some analyses employing the data of Lynch et al. (1966) as well as some of their own data from up to 278 PCVs who served in the Philippines. For 70 Volunteers for whom ratings from training, by overseas supervisors, and by Filipino local residents were available, we find as before that training measures were completely ineffective predictors of ratings by local residents. However, there was a .375 correlation between American supervisors' ratings of the Volunteers and ratings by local residents ($p < .005$). This suggests that the supervisors' ratings include components associated with local standards as well as with training standards since supervisors' ratings also correlate .325 ($p < .005$) with Final Review Board rating. What we are calling "local standards" and "training standards" may not be entirely culturally determined. These differences may also reflect differences in behavior as a function of the time and situation under which the behavior was observed. Or they may simply reflect differences between evaluations by professionals and people served, regardless of country: Guthrie and Zektick concluded that local standards emphasized personality whereas training standards emphasized job performance, commitment, and innovation.

Guthrie and Zektick's data on the relation between proficiency in the local dialect and other indices of overseas performance are puzzling: On the one hand for 36 PCVs who were rated by Americans on Dialect Proficiency,there is a marginally significant ($p \sim .05$) correlation of .269 with local residents' Overall Performance rating for them; Filipinos' ratings of the PCVs' Dialect Proficiency shows only a nonsignificant correlation of .070 with their rating of Overall Performance. On the other hand, the Americans' ratings of Dialect Proficiency never correlates less than .505 with any of the four other ratings made by Filipinos of PCVs: Dialect Proficiency, Liked by Community, Known in the Community, and Effective in the Community, yielded significance levels of .0005 in three cases and .005 in one. As a matter of fact, the Americans' rating of Dialect Proficiency correlates more highly than the Filipinos' rating of that proficiency when compared to each of the other four ratings by Filipinos. If we presume that the Americans' ratings of Dialect Proficiency were the usual ratings by PC staff members rather than the less frequent FSI ratings, we may suspect that they include some halo effect, making them less dependent on language fluency than the better informed language ratings by Filipinos.

Finally, we note generally poor predictive performance in this study for English vocabulary and for personality tests when Overall Evaluation is the criterion. See a section of Chapter 5 called *Relationships between Language Performance Overseas and Other Variables* for other findings related to Guthrie and Zektick's work.

Attrition

Rate of premature return from overseas. Krug and Wertheim (1965) have provided extensive early data on this topic. Three measures of attrition seem most appropriate in taking into account the actual time spent overseas: (a) percentage of Volunteers prematurely returned by the time they would otherwise have spent x months overseas, (b) the percentage of Volunteers being sent home prematurely for every year of project existence, and (c) the percentage of man-months actually served compared to the percentage of man-months originally scheduled for the projects under consideration. Krug and Wertheim call these three measures Total Attrition after x Months, Annual Turnover, and Efficiency, respectively.

Krug and Wertheim (1965) reported a 12.9% incidence of Total Attrition after 18 months overseas for appointments in the period from June 1961 through August 1962, with a decline to 11.0% for the next year's appointments and a decline to 8.0% for the next succeeding year's appointments for Volunteers for whom 18 months of service were possible by the time of reporting. Cobb, Wrigley, and Kline (1966a) found a 21% total attrition for 7,089 PCVs in projects completed up to early 1966, many more cases than were available for comparable analyses by Krug and Wertheim. Since the normal term of overseas service is 21 or 24 months, depending upon the project, one would expect somewhat higher Total Attrition during a total project than in 18 months. However, an increase from around 10% to 21% must mean that the Total Attrition has been increasing in recent years rather than merely affected by the number of months used in the measurement procedure.

The most comprehensive tally of early terminations (J. Harris, 1973) shows % Early Terminations (= Total Attrition after Scheduled Term of Service) in the field for successive years of Volunteer appointments from 1961 through 1969 to be 10, 17, 14, 13, 15, 22, 29, 36, and 37, respectively, with partial data for 1970 yielding 29%. These values show little change in Total Attrition during the first few years of operation but substantial increases beginning with 1966 appointments. This suggests less successful recruiting, training, and/or selection in later years than earlier ones. Data on Total Attrition for 1971 and 1972 appointments as Volunteers could not have been compiled until Spring or Summer 1973 and 1974; none seem to have been reported at this date (Fall 1974).

Note that in all these attrition data some nonselection factors are reflected: early terminations based on medical discharges, large numbers of military inductions in a few years, and some terminations when a program was stopped in a host country and new assignments could not be quickly arranged for certain Volunteers.

In addition to changes in total attrition, Krug and Wertheim (1965, Fig.1) found a difference in shape in attrition curves in different years: Particularly in the June 1961 through August 1962 period, the rate of attrition (slope of the total attrition curve) was low for the first three months but increased at three months, remaining high until 12 months, the curve dropping thereafter to a slope womewhat higher than for the first three months. More recent data show a general though not universal tendency for the rate of attrition to decline with months of service overseas, as if the more susceptible (to psychiatric or other difficulties) Volunteers were being eliminated early. Krug and Wertheim (1965, p.4) believe that the most plausible explanation of the low rate of attrition in the first curve is: During the early days, no one wanted to be the first early termination in his country, so the potential terminee waited for someone else to go first. Also, Peace Corps Representatives did not want Volunteers to terminate because they wanted desperately for the experiment to work. In short, the total environment was unfavorable to early termination; as termination became more acceptable the rate rose rapidly and stayed high for nine months as the backlog of potential terminees came home.

The Annual Turnover measure also shows an improvement from 1963 to about 1965, with a 7.8% value for all completed projects and only 6.0% for all current projects in the Krug and Wertheim study. The comparable figures for Efficiency are 92.9 and 94.8% respectively. Cobb, Wrigley, and Kline do not present data on Annual Turnover and Efficiency, nor are such data available in Peace Corps Statistical Summaries. However, recent reports to Congress have emphasized something close to Efficiency: (d) total available man-months expected from Volunteers, divided by actual number of man-months lost by early termination, yielding a net-loss ratio. Net losses were defined as losses minus gains from extensions for a third year rather than the normal two years of service. The quantity 1- (Net-Loss Ratio) could be called Anual Efficiency since it appears to represent a proportion of man-months of service obtained in a year, compared to the number expected from Volunteers on board at the beginning of the year plus expected from those Volunteers appointed during the year.

Annual Efficiency has the defect, as does Annual Turnover, of reflecting what happens to terminations (and extensions, if we are talking about Annual Efficiency) within a year, ignoring different selection and training methods in the two different years of selection and training contributing to the present Volunteer pool. Whether a change in Annual Efficiency has been occurring is difficult to tell from published evidence, especially since the net-loss ratio first began to appear in Congressional hearing reports in 1973. However, the Program Year 1972 net-loss ratio may have been about 17 1/2% (the relevant date is missing from the reports) (Committee on Foreign Affairs, 1973, p.11, p.15, p.16; Committee on Foreign Relations, 1973, p.56) compared to a firm figure of 9.1% for Fiscal Year 1973 (Committee on Foreign Affairs, 1974, p.16), suggesting recent improvement in Annual Efficiency. This suggests that Total Attrition may possibly have declined since J. Harris' (1973) data for 1970 and partial data for 1971 were generated.

If the suggested decline occurred, we can begin to relax about Harris' concern that the 1970 reduction in psychological input to selection decisions during training might hinder selection of predominantly high-caliber Volunteers. Alternatively, as he also prognosticated, present data might be interpreted as suggesting that an increase in the percentage of skilled Volunteers compensated for a loss in selection efficiency. One might also argue that psychological factors, such as the SIR (smooth interpersonal relations) to be discussed in a later chapter remain important but are no longer dominant once Volunteers have a genuine skill to offer overseas

Part of Harris' concern stemmed from a fear that the new selection procedures would produce too few training terminations, leading to more overseas terminations and thus possibly to more painful or costly terminations. His data show that per cent terminations during training was always less than 25 before 1963, ranged from 25 to 33 from 1963 through 1967 and dropped to 20 in 1970. Poorly dated data reported in 1972 show a 22% training attrition (Committee on Appropriations, 1972, p. 947); a later report shows a 10.4% training attrition for Fiscal Year 1973 (Committee on Foreign Afairs, 1974, p. 16). A crucial test of Harris' concern would be to show whether the FY 1973 Trainees with so small a training attrition show a high Total Attrition. Relevant data should become available in Spring and Summer 1975.

Note that many of the comparisons of this section are complicated by the fact that the Peace Corps originally reported annual data by Program Year (beginning in the fall), had only 10 months in its 1972 Program Year because of a shift in recording procedures, and converted to Fiscal Year reporting (July 1, 1972 through June 30, 1973 for FY 1973, for example) beginning in FY 1973 (ACTION, 1973c, p. 6). We have already noted the vagueness with which dates are sometimes reported by Peace Corps personnel testifying to Congressional committees. A further complication is that J. Harris' report (1973) doesn't specify the definition of a year but reads as if a calendar year were employed.

Reasons for premature return. Thomson and English (1964) reported that the first 116 Volunteers to be returned prematurely included 21 returned for compassionate reasons such as sickness or death in the family, 71 for failure to adjust, 8 for physical illness, 12 for psychiatric illness, and 4 following their own death by accident or disease. They further break down the failure to adjust group into 19 with motivational difficulties, 32 with problems of personal adjustment or interpersonal problems, 9 who were unhappy with their assignment, and 13 who decided to marry under circumstances in which continuance in the Peace Corps would be impossible or unwise. (This breakdown totals 73 rather than the 71 reported above; no explanation for the discrepancy is readily apparent). Similar but less specific data were reported by Menninger and English (1965).

Henry (1965) believes that only about one fourth of prematurely returning Volunteers represent selection errors rather than returns for compassionate or medical reasons. However, he does not present specific data on this point, and the Thomson and English study just cited makes his estimate seem over-optimistic. Henry's guess that 80% of the people sent overseas by American companies are mistakes is also unsupported by objective data, as he himself points out. The question of the relative effectiveness of selection of overseas personnel by the Peace Corps and by business firms must be settled, if at all, on the basis of better information then that presently available.

Relation of selection and training variables and attrition. We note that the reported causes of attrition and the discussion of selection errors focus upon Volunteer imperfections. It would be useful to know how large a percentage of early terminations are self-initiated resignations. One also wonders if, among Volunteers resigning early, a sizeable number of cases could be found in which improvement in the Peace Corps program or counseling or negotiating with disgruntled Volunteers rather than improvement of selection would have been the more practicable way to reduce attrition. In that connection we now encounter a possible contamination of data which was not evident in studies of overseas effectiveness ratings, possibly because adequate comparisons across projects or regions would have required more research effort than that necessary with attrition data. The problem is this: Certain levels of two selection variables (age and education) are predictive of high attrition probability, but they are also correlated with assignment to Latin America or to community action projects, both the latter characteristics also being predictive of high attrition probabilities. Therefore, one must inquire whether the selection variables or the project locations and characteristics were the primary factors in attrition.

One variable which is independent of project assignment is sex; for 145 completed projects, 7.2% of the males and 10.0% of the females sent abroad were returned prematurely (Krug & Wertheim, 1965). A similar trend was found by Cobb et al. (1966a). It is not possible to give a statistically definitive explanation for this sex difference, but suggestive data come from Thomson and

English (1964): Only 4% of the 50 males who had returned prematurely for adjustment or psychiatric reasons by January 1963 stated that they were returning to become married, whereas one third of the 33 females did so.

In view of contradictory evidence on the relation of age to Overall Evaluation, the evidence on age and attrition is of special interest: Krug and Wertheim reported a total attrition (for adjustment and psychiatric reasons) for 145 projects of 11.1% for Volunteers 20 years old and younger, of 7.9% for Volunteers from 21 through 30, and 10.0% for even older Volunteers. They also reported that 14.8% of the Volunteers with no college experience returned prematurely for these reasons, compared to 10.8% with some college experience, and 7.2% of all college graduate Volunteers. Cobb et al. (1966a) found higher attrition for older Volunteers than younger, partially contradicting Krug and Wertheim. Cobb et al. confirmed Krug and Wertheim's finding about education, however.

In an early study of attrition Thomson and English (1964) asserted without documentation that the Assessment Summary ratings for premature returnees for psychiatric reasons were lower, on the average, than for any other returnee group. A similar statement was made regarding psychiatric ratings during training. The former statement is closely related to Menninger and English's report (1965) that nearly 40% of the psychiatric casualties were given a marginal Assessment Summary rating, compared with 15% of all overseas Volunteers. However, Menninger and English reported no difference in average length of overseas service of Volunteers who were interviewed by a psychiatrist during training and considered good risks, Volunteers who were interviewed and considered doubtful risks, and those not interviewed at all. Holtzman, Santos, Bouquet, and Barth (1966), in the first attrition study mentioned thus far which did not summarize all Peace Corps returnees up to the approximate time of publication, reported that Final Selection Board ratings were significantly higher for the 50 Volunteers in Brazil who completed their normal tour of duty than for the 22 early returnees who returned due to reasons for which they could be held personally responsible.

Holtzman et al. also found that three scales of the Edwards Personal Preference Schedule were significantly correlated with this dichotomous criterion: relatively low scores on Order, Exhibition, and Heterosexuality were predictive of completion of service in Brazil. None of the other 18 MMPI or EPPS measures employed proved significantly correlated with this criterion.

We emphasize that all the significant predictors of attrition discussed thus far are only slightly correlated with the criterion. Thus Cobb et al. (1966a) report a .06 correlation between sex and the dichotomous criterion; a .04 correlation between amount of education and the criterion; and a -.04 correlation with age. Other significant predictors in their study (none with a correlation larger than .11 in absolute value) include the following, with the side of each variable favorable to completion of service being indicated in each case: high Assessment Summary rating, willingness to serve in any country to which assigned, low General Aptitude Test, farm experience, no nominations by fellow Trainees as someone they would not like to be assigned with overseas, high physical training grade, frequent nomination by Trainees as someone they would like to be assigned with overseas, high rated maturity based on an interview, low Psychopathic Deviate score on the MMPI, low score on the Barron Ego Strength Scale, low Exhibition score on the EPPS, high aggression score on the EPPS, high Authoritarianism score on the Levinson F-Scale, high Femininity score on the MMPI Interest Scale, and a low score on the MMPI Hysteria Scale. Several of these variables showed effects opposite to those which psychologists might have predicted, notably the General Aptitude Test, the Ego Strength measure, and the Authoritarianism measure.

Cobb, Wrigley, and Kline are puzzled by these findings but point out that it may not be the variables of General Aptitude, Ego Strength, etc., themselves which affect overseas attrition. For example, it could be that relatively low intelligence Volunteers were selected only if they were above average in emotional maturity, with this superior maturity making them less likely to terminate Peace Corps service early.

In Stern, Cohen, and Redleaf's (1966, Table 10) study across several training projects, one factor (Expressiveness) from the Activities Index was (apparently) significantly correlated with overseas attrition (r = .29) for men but not for women. Since overseas attrition data were available from 65 projects and Activities Index data from 61, the N s for these correlations may be as large as 1,530 for men and 950 for women. No other factors showed significant correlations with overseas attrition.

Although Carroll (1966b, pp. 109-113) had found (for Spanish-speaking countries) that Trainees who were separated from the Peace Corps during or at the end of training had significantly lower Modern Language Aptitude Test scores (Parts 3, 4, and 5) than those who continued, he reported that the 29 PCVs separated during field service had higher MLAT scores than the 288 Volunteers who were still in service at midtour. No statistical significance test was performed on the latter finding; Carroll's evidence for Portuguese-trained PCVs, based on only six early terminees and 31 Volunteers still in service, gives opposite results.

R. Jones (1969c) found some degree of predictability of overseas attrition from variables which can be investigated before training begins. Among 363 male Volunteers assigned overseas, of whom 23 were returned prematurely, attrition had a .15 multiple correlation with age, MLAT score, and percent "excellent" responses on reference rating forms. Among 211 women, of whom 19 returned prematurely, the R was .25, with predictors from educational level, teaching experience, Full Field overall ratings, and number of "qualified", i.e., limited, recommendations obtained during the Full Field Investigation. All variables were positively correlated with completion of service except for teaching experience of female Volunteers. A further counterintuitive relationship was the positive relationship between number of "qualified" Full Field recommendations and overseas success. Both R's just reported have been corrected for shrinkage.

On the basis of biographical evidence that American defectors to China after the Korean War frequently had lost their fathers at an early age because of divorce or death, Suedfeld (1967) hypothesized that early returnees from the Peace Corps might have a disproportionate history of absence of their fathers for at least five years before their fifteenth birthday. Two independent tests of this hypothesis strongly confirmed the hypothesis. Overall, Suedfeld reported that only 11.3% of 62 randomly sampled PCVs who did not return prematurely had experienced paternal absence of this degree. In contrast, 43.5% of 62 randomly sampled PCVs who did return prematurely for any reason had experienced paternal absence of this degree. Suedfeld does not discuss the sex of the Volunteers studied. Presumably both sexes were represented in approximately the ratio normally observed among Volunteers. From a Freudian point of view, it would seem particularly interesting to redo this study separately for each sex.

A paper by Goldberg (1964b) argues for group discriminative assessment in Peace Corps selection. In the present context this would mean finding a way to minimize the cost of errors in predicting attrition or non-attrition of an individual from a set of several selection or training scores. Statistically speaking, this is closely related to the classification problem mentioned earlier in connection with prediction from pre-training assessment programs. Discriminant functions and related procedures have commonly been used to make such predictions. Isaacson (1954) and Krishnaiah (1966, Part III) give a variety of such procedures and state their required assumptions as well as indicating the relative difficulties of different types of classification problems. We recommend that special attention be given to a third reference (Morrison, 1967, pp. 130-132) which treats a problem of psychological classification quite compactly while providing a number of warnings about the effects of choosing the wrong technique.

A word about the comparative usefulness of multiple regression and classification procedures seems in order: If Fisher's discriminant function is computed wholly from sample data rather than employing population values of means and covariances (Bennett & Franklin, 1954, pp. 288-295), this amounts to defining a composite function, $Y = a_1 X_1 + a_2 X_2 + \ldots + a_k X_k$ where the X values are predictors and the coefficients a have been so selected that they yield that Y value for each person such that a t test comparing the mean Y among one group (for example, persons successfully completing Peace Corps service) and a second group (for example, those Volunteers not completing their service), will have its maximum value. The criterion satisfied by this discriminant function is equivalent to the minimization of squared errors of prediction obtained with a multiple regression equation as applied in prediction of a dichotomous criterion

(Fisher, 1936). Thus Stein's (1966) calculation of a multiple R for relating a variety of predictors to the attrition criterion, mentioned earlier, could have been part of a process continuing on to the multiple regression equation itself and then to a classification decision. (That decision procedure should also be dependent upon the relative costs of the two kinds of errors which could be made.) Alternatively, Stein and other investigators would have been well advised, according to Goldberg's original point, as well as the logic of minimizing errors or the cost of errors of classification, to forswear the calculation of R and proceed immediately with the discriminant function approach. The reader should be warned that we are not advocating the particular procedure employed by Bennett and Franklin, whose presentation may be criticized for using sample values (possibly unavoidable in some applications) and for not including a decision rule once the discriminant function is obtained.

Relation of attrition to overseas ratings. Cobb, Wrigley, and Kline (1966a) found that favorable ratings on Job Competence, Maturity, and Overall Evaluation (either three months or one year after assignment in the field) are correlated on the order of .13 to .22 with completion of the overseas assignment. These correlations are higher than those based upon data available during training; however, this superiority is in part the result of administrative factors: the person making one of these ratings also has the power to encourage or require a Volunteer's premature return to the United States.

Correlations of Predictors and Sub-Criteria

Wrigley, Cobb, and Kline (1966b) have presented intercorrelations between six predictors: Final Board ratings, psychologist's prediction of overseas success, foreign language evaluation, peer predictions of overall success, Assessment Summary ratings, and grades in technical subjects during training. The highest r was equal to .44, for FBRs and psychologist's prediction (N = 7,961). The mean of the correlations with one another was .23 (N> 6000 for each coefficient).

We recall from an earlier section that R. Jones (1967c) observed different predictive validities of ratings based on Full Field interviews with different categories of respondents. To what degree do Jones' findings on this point depend upon unusual patterns of interrelations of ratings within and between types of respondents? We note, first, that different measures within one information source tend to be more highly correlated with each other than different measures from different information sources: In Jones' (1967c, Table 2) the proportion of statistically significant intercorrelations of traits based on neighborhood informants was .267 and that for employers and educators was each .600. In contrast, the proportion of significant correlations between data from educators and neighbors was each .133. These intercorrelations are all discriminant validity coefficients in Campbell and Fiske's (1959) usage. With 48 of 135 coefficients having absolute values less than .10, they are smaller than the convergent validities which had a median value of .32 reported in an earlier section. This suggests that the trait measured is more important than the source of information in determining rating values. However, what one could call the "heteromethod discriminant validity" is typically slightly lower than the "monomethod discriminant validity," as indicated by their relative frequency of statistical significance. The latter set of validity coefficients may be taken as an indication of the amount of "halo effect"within sources of interview data; i.e., the degree to which a single factor or impression about a Peace Corps applicant permeates all the information reported by a given respondent.

R. Jones (1969c, Table 4) has reported between-battery correlations for four selection batteries: (1) Ten Office of Volunteer Support and Division of Selection items (OVS-Sel); (2) 6 references' ratings categories; (3) 6 suitability ratings categories, and 12 Full Field ratings. Since total scores for each battery were not computed, the correlations are between items from different batteries. The only intercorrelation above .36 was an *r* of .62 between the MLAT and the suitability rating on language. However, 33 out of 36 intercorrelations between references and suitability ratings exceeded .10, indicating that these two batteries were the most closely associated. About one-fourth of the intercorrelations between Full Field data and references or suitability ratings were also above .10, with OVS-Sel being almost that closely associated with suitability but having only one-tenth of its intercorrelations with references or Full Field data above the .10 cutoff used by Jones, working with a .001 significance level and *N*'s of 1000 or more.

Language fluency overseas, as rated by Peace Corps staff, was predicted in the following order: Language grade and instructors' rating on language performance were equal (*r* = .23); Peer Prediction of Success (*r* = .21); averaged rating by peers (*r* = .13); Final Board rating (*r* = .12); Psychologist's Prediction (*r* = .10); and Assessment Summary rating (*r* = .05)with *N* s ≥ 1000 in each case (Wrigley, Cobb, & Kline, 1966b).

Mischel (1965) found that correlations of criterion ratings on each of 6 dimensions with the total ranged from .72 to .85. These were Teaching Effectiveness, Interpersonal Behavior with Nigerians, Appreciation of Nigerian Culture, Adjustment to Assignment, and Representation of American Culture by

(a) personal behavior and (b) by interpreting American culture to Nigerians.

We have previously seen evidence of substantial intercorrelation among total scores for different clusters of related items on one version of Jones' Overseas Staff Questionnaire (1968b). A later edition (R. Jones, 1969c, Table 6) exhibited substantial correlations in many cases between items which did not meet criterion for being clustered and between unclustered items and cluster scores. A 7-item cluster for General Evaluation correlated .78 with a single item on the excellence of a Volunteer, suggesting that this cluster could be omitted from the OSQ. The 2-item cluster on difficulty of the site where the Volunteer was serving was the least related to other OSQ measures, apparently because it was an objective property of the environment rather than a characteristic of the Volunteer's performance like most other items.

R. Jones (1968b, 1969c) has reported on development of a series of successively refined versions of the Overseas Volunteer Questionnaire (OVQ). We report only on the most recent findings from the latter paper. An OVQ form containing 105 items was distributed to 1,547 Volunteers shortly after the midpoint of their overseas assignments; 783 forms were returned within about 4½ months allowed by the investigator. Analysis of data in the light of previous studies yielded 23 clusters of two to eight items each, plus two one-item "clusters." Apparently most or all clusters of the present study met an earlier criterion of having each item within a cluster correlating at least .35 with the total cluster score (Jones, 1968b, p. 10). The 25 clusters were logically classified as either *Volunteer descriptive*, *Volunteer evaluative*, *project descriptive*, or *project evaluative*. Intercorrelation of the 25 clusters showed somewhat greater homogeneity within classes than between classes: Of 70 correlations between pairs of items within a single class such as Volunteer descriptive, 25 or 35% equalled or exceeded the .20 absolute value which Jones (1969c) thought of substantive importance. Among 230 correlations between pairs of items from different classes, 53 or 23% exceeded this criterion. However, there are enough substantial correlations between items from different classes to suggest that further multivariate analysis be performed to reduce the number of variables and to make those variables more nearly independent of each other. Even the collapsing of the four categories into two, Volunteer and project, might slightly increase the discrimination of within- as compared to between-class correlations since descriptive and evaluative clusters show many fairly large intercorrelations when the Volunteer or project category is held constant.

R. Jones (1969c) has also correlated his 11 OSQ and 25 OVQ measures. A high General Evaluation of the PCV on the OSQ was significantly ($p < .001$) correlated with 60% of the OVQ measures, indicating the possibility of constructing a scale from the OVQ which would be almost equivalent to this item. Other OSQ measures had from 3 to 11 significant correlates from the OVQ. Most, but not all, of these significantly related measures occurred with closely related content from the two questionnaires. The high correlation observed was .50 for language proficiency measures from the two instruments. On the other hand, the rated difficulty of the site where the Volunteer was assigned showed a correlation of only .16 between staff and Volunteer ratings.

Next, R. Jones (1969b) performed the sort of data reduction we have been wanting, factor analyzing 11 OSQ measures and 26 OVQ measures from 627 Volunteers for whom OSQ and OVQ data plus information about teaching experience and work assignment were available. Eleven factors were obtained by the principal components method. Though an oblique rotation was employed, the factors remain relatively independent, with 34 out of 55 correlation coefficients having absolute values of .10 or smaller. Adequate reliabilities are indicated by Cronbach alpha values of .51 to .88 for the 10 factors based on two or more items.

Summary of Findings about Prediction of Performance by Trainees and Volunteers

1. Final Board Ratings (FBRs) can be predicted fairly well from data available before training ($R \approx .50$), (Krug, 1962a, 1962b), and noticeably better from data available either before or during training ($R \approx .70$ at best), (Stein, 1966,; Gostin & Levitan, 1967).

2. The best predictors of FBRs from data available before or during training include a quantified overall measure from the Full Field Investigation of applicants as viewed by acquaintances and teachers or employers ($r \approx .30$), (R. Jones, 1969c), peer ratings ($r = .34$ for Mischel, 1965, and $r = .61$ for Perloff & Gillmer, 1964), and the Modern Language Aptitude Test ($r \approx .26$), (Krug, 1962a). Peace Corps instructors' ratings are also useful, but personality scores from self-report questionnaires give inconsistent results which must be viewed as unpredictive overall. (See Table 4.1).

3. Prediction of rated overall performance overseas (Overall Evaluation) is slightly less successful than prediction of FBRs: An R of .42 was found for Full Field Investigation predictors and an R of .59 based on those predictors plus training data (Jones, 1967a). However, one small study ($N = 51$) found R which becomes .72 when corrected for shrinkage due to the use of 16 predictors.

4. Inadequately reported data (Stern, Cohen & Redleaf, 1966), exist which suggest the possibility that four different Activities Index factors (Self Assertion, $r = .49$; Applied Interests, $r = .55$; Friendliness, $r = .36$; and

Expressiveness, $r \approx .67$) may each be excellent predictors of Overall Effectiveness. Further research on this point is badly needed.

5. Moderately valid individual predictors of overseas performance include the FBR ($r \approx .30$) (Stein, 1966, and others), reference letter ratings of Job Competence ($r \approx .19$) (Wrigley, Cobb & Kline, 1966b), the Assessment Summary rating available before training begins ($r \approx .17$) (Cobb, Wrigley, Kline, 1966b), and Psychologists' Predictions of Success in the Peace Corps ($r \approx .15$) (Wrigley, Cobb, & Kline, 1966b).

6. Prediction of the quality of Volunteers' work as judged by local residents is even more difficult than prediction of evaluations made by Peace Corps personnel. Teaching experience, farming experience, and favorable language instructor's evaluations were predictive of high ratings for Peace Corps teachers in the Philippines (Lynch et al., 1966).

7. For Volunteer appointments in 1961-66, from 10% to 17% of a year's new Volunteers failed to complete their normal tour of duty; this percentage ranged from 22% to 37% in 1967-70 (J. Harris, 1973). A majority of early returnees exhibited failure to adjust (rather than physical illness or some other cause for compassionate return to the U.S.), which could conceivably be predicted from selection and training data. Attrition seems to be related to many of the same variables as FBR and Overall Evaluation, but to be less predictable.

8. We must keep in mind that the goal of a selection program is to maximize some variable such as the total number of satisfactory Volunteers sent overseas or the percentages of Volunteers who give satisfactory service. In some cases substantial correlations of predictors with criteria such as Overall Evaluation may improperly lead to use of those predictors as selection criteria when in fact such use would leave the Peace Corps farther from the goal just mentioned than if no one was excluded on the basis of those predictors. Goldberg's recommendation of group discriminative assessment in Peace Corps selection seems fundamental to an optimal selection procedure.

Chapter 5

The Training of Peace Corps Volunteers

Less research effort has been expended upon evaluating Peace Corps training methods than upon evaluation of methods for selecting Volunteers; the relative brevity of this chapter compared to Chapter 4 on selection documents this statement. (Note, however, that as a matter of policy we excluded most references which did not present data. They more frequently dealt with training rather than selection.) Yet there are hints in the literature that unsuccessful overseas performance may stem as much from poor administration (Textor, 1966, p. 212 and p. 301) or poor training (Butler, 1968) or both (Comstock & Maccoby, 1966, Research Report No. 9; McLaughlin, 1966) as from poor Volunteer material. Butler's evidence is an impressionistic comparison of three groups trained at one location in the same year for duty in Nepal. Of the first group of 42 (Nepal Group 12) one-fourth failed to stay in Nepal as long as two months. Only two out of the 50 Volunteers in the next two groups (Nepal Groups 13 and 14) had returned within the first five months of overseas duty. The Director in Nepal considered Group 12 to have too little commitment to its mission to stay long enough to find out what the Nepalese assignment was really like. Since Butler reports, without specific evidence, that Groups 13 and 14 had less quick and curious Volunteers at the beginning of training than Group 12, this suggests that Group 12 should have done better overseas unless changes in training procedure for Groups 13 and 14 were indeed causes of better overseas performance by those groups. It is unclear, however, which features of Groups 13 and 14 training were most beneficial -- the heavy emphasis upon "commitment," the use of a returned Peace

Corps Director from Africa as Director of Training, the abandonment of the Trainee council, etc. Carefully designed experiments on training methods seem desirable in the wake of the Nepal projects' experience.

Useful introductions to the topic of Peace Corps training are given by Pagano (1965), Stern (1963), and by Shea (1966), among others.

Foreign Language Instruction

Training Methods

The foreign language training programs of the Peace Corps or of particular Peace Corps training centers have been described by L. Calvert (1963), Carroll (1966), Ferrigno (1963), Landgraf (1963), and Topping and Cammack (1965). Morgenroth (1967) has briefly reported on the language laboratory facilities and teaching practices of 25 PC training projects. Landgraf lists 34 languages in which Volunteers were being trained up to the time when he wrote his article; Fiks (1968c) has reported on amount learned in 31 different languages taught to Volunteers. At least 187 different languages and dialects have been learned by Volunteers (Peace Corps, Office of the Director, 1971, p. 6). Formerly, the customary amount of foreign language instruction during Peace Corps training was somewhat over 100 hours, concentrated in an eight week training period, but has moved up toward 300 hours in a 12 to 14 week program (Shea, 1963, Fiks & Muth, 1969a). Teaching patterns differ from center to center, but a picture of one practice is given by Calvert's description of the University of New Mexico Spanish language training procedures: Classes average about 10 students, with smaller groups for slow-moving students. Students are assigned to classes on the basis of previous achievement and may be re-assigned because of fast or slow learning. Teachers rotate from class to class so that each student is exposed to at least two or three different instructors, with an effort being made to have both native and non-native speakers and both male and female instructors in contact with each student. The teaching method employed has been called audio-visual-lingual since it uses a textbook plus oral dialogues, pattern drills, and the teaching of verb morphology by appropriate arrangement of printed morphemes on a flannelboard. Laboratory drills supplement classroom instruction; in addition, everyone must speak Spanish at the evening meal each day. Frequent tests are given; they are both oral and written.

Because of the unavailability of textbooks and linguistic descriptions of some exotic languages, Peace Corps research contracts have sometimes been let for the preparation of teaching materials in such languages. For example, MacLeish (1967) prepared a phonemic sketch describing points of conflict between the sound systems of American English and the Malaysian language of Sabah, with particular emphasis upon difficulties to be expected in teaching the pronunciation of American English to native speakers of Sabah.

The extreme diversity of approaches to the content of language training is well illustrated by Guthrie (1965), who reported on problems of training for service in the Philippines where a multiplicity of languages and dialects is used. In the first three groups of Trainees bound for that country, the impossibility of predicting which language or dialect area would be the site of any Volunteer's work led the training institution (Pennsylvania State University) to offer a course in basic linguistics rather than training in any one language. Very brief in-country training in a relevant language followed. In later projects it was possible to determine the area of assignment and language requirement for a group of Trainees and give them all the language training appropriate to their future assignment. Later still it was decided to train all persons bound for the Phillippines in the Tagalog language whether they needed it or not.

No systematic language instruction is given to Volunteers after they receive their field assignment. However, we shall shortly see evidence that improvement in language performance overseas is frequent. Presumably that improvement results from a combination of language practice inherent in the Volunteer's job and living situation and self-directed language study in off hours. When different Volunteers were questioned about such study practices after 2, 5, 13, or 17 months in Nigeria, their report was that frequency of language study was fairly high ("happens from time to time") after 2 months, a little higher after 5 months, but was lower than ever after 13 months and the very lowest after 17 months (Lichtenstein & Spector, 1964, p. 70). Allen and Herring (1968, IV-12) report that at mid-tour Volunteers in the Philippines averaged almost five hours per week of language study compared to three hours per week near the end of service in the Peace Corps.

Level of Competence Attained During Training

Table 5-1 indicates that reading of Spanish may have been slightly better developed than listening and comprehending, both at the end of training (eight weeks with 200 hours of language instruction) at the University of New Mexico and at mid-tour in one's field assignment. Also note improvement from the end of training to mid-tour. The FSI equivalents given should be considered approximations for two reasons: We have rounded to the nearest unit (such as 1) or partial unit (such as 1+, sometimes treated as 1½), and the equivalents also

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Insert Table 5-1 about here

Table 5-1

Mean Performance on Spanish Proficiency Tests (MLA-Cooperative Tests)
for Volunteers at End of Training and Mid Tour,
with Estimated Foreign Service Institute Equivalents (N = 172 at Each Stage)
(Based on Table 34 and Appendix G of Carroll, 1966. Used by permission.)

Test	End of Training		Mid-Tour	
	Mean Converted Score	FSI Equivalent	Mean Converted Score	FSI Equivalent
Listening	173.1	S - 1+	181.2	S - 2
Reading	173.4	R - 2	183.5	R - 2+

depend upon somewhat indirect statistical manipulations performed by Carroll (1966, Appendix G), who offers the following comments: "Such a procedure is somewhat unorthodox and entails an unknown amount of error in estimation, but until a direct equating study has been done, these equivalents are the best available."

Fiks and Muth (1969b) have directly determined mean Pictorial Auditory Comprehension Test (PACT) scores in Spanish, as a function of FSI ratings obtained at the same time, either the beginning or the end of Peace Corps training. Correlations of from .76 to 1.00 appeared between pairs of measures taken at the beginning of training: PACT, FSI, MLA Listening, and MLA Speaking. If available, the Fiks and Muth raw data would apparently be suitable for making direct revisions of Carroll's Appendix G and making related equivalence tables.

Table 5-2 supplements Table 5-1 by also providing a comparison of end-of-training language performance by Trainees who did and Trainees who did not take a placement test required of all who reported having previous training in Spanish. As would be expected, the previously experienced persons were still superior to the other group at the end of Peace Corps training. However, there is some evidence (Carroll, 1966, Fig. 6; Fiks & Muth, 1969a) that the inexperienced groups make more improvement than other groups during training. Table 5-2 supports the previous indication that reading is better developed than speaking, measured in this table either with a speaking test or by the S-scores of the FSI equivalents. One can conclude from Table 5-2 that the

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Insert Table 5-2 about here

Table 5-2

Mean Performance on Spanish Proficiency Tests (MLA-Cooperative Tests), with Estimated Foreign Service Institute Equivalents for Trainees at End of Training as a Function of Whether They Took a Proficiency Test and had Prior Training in Spanish (Group A) or Not (Group B).

(Based on Tables 10 and 12 and Appendix G of Carroll, 1966. **Used by permission.**)

	Group A (N = 218)		Group B (N = 118)		Groups A and B Combined	
Test	Mean	FSI Equivalent	Mean	FSI Equivalent	Mean	FSI Equivalent
Speaking (MA Form)	53.11	S-2	40.47	S-0+	48.67	S-1+
Listening (MA Form)	27.82	S-2	19.84	S-1	25.01	S-1+
Reading (MA Form)	27.73	**R-2+**	16.60	R-1+	23.82	R-2

average Trainee with some Spanish preparation before entering the Peace Corps met the S-2 criterion which Carroll felt minimally acceptable, but did not meet the S-3 standard set by FSI. Previously naive Trainees did not even meet the Carroll standard. However, Table 5-2 indicates that the average Volunteer (regardless of previous training) who survived until mid-tour had met the S-2 criterion. (Note that Table 5-1 reported "converted scores" necessary to combine data from two different test forms in a single mean. This was not necessary in Table 2, where only a single form was used for any basic measure.)

What about the difficulty of learning more exotic languages than Spanish? In the course of describing the University of Hawaii Peace Corps Language Training Program, which had trained Volunteers in eight different languages ranging from Indonesian to Gujarati by 1964, Topping and Cammack (1965) report that direct examination by an FSI linguist yielded 3 S-0, 25 S-0+, 16 S-1, and 4 S-1+ ratings in a group of 48 Trainees who had received 200 hours of training in Thai. Under the assumption that none of these Trainees had studied Thai before entering the Peace Corps, we can compare their performance with that reported for Group B of Table 5-2. The attained level in Thai is approximately the same as in Spanish.

Fiks and Muth (1969a, Table 20) provide data from a total of 852 Trainees in a variety of exotic languages, showing a mean of 1.21 in S-rating on the FSI scales, compared to means of 1.58 for 190 Trainees in French or Spanish in 1967 and 1.80 for 106 Trainees in a more extensive French or Spanish program in 1968; all Trainees being originally untrained in the language involved. This suggests that the exotic languages are somewhat more difficult to learn than French and Spanish. Fiks and Muth's results also suggest more learning of French and

Spanish in 1967 and 1968 than in Carroll's earlier research, as reflected in Table 5-2 above. Comparison is made difficult, however, because the FSI ratings of Table 5-2 are estimates from objective tests whereas Fiks and Muth dealt mostly with direct FSI ratings. We have already noted that Fiks and Muth (1969b) apparently obtained enough objective test information to permit the sort of direct equating study which Carroll wanted as a basis for his Appendix G. If, indeed, the greater learning in Fiks and Muth's (1969a) study was not artifactual, it probably resulted from greater amounts of instruction or a different way of scheduling foreign language classes than in the New Mexico study of Carroll.

Level of Competence Attained During Service

We can supplement Tables 5-1 and 5-2 with some material concerning speaking proficiency in several languages at the end of Volunteers' tours of duty: Colmen and Boulger (1964) report that FSI examiners gave S-3 or higher ratings to 56% of the 379 Volunteers tested in Spanish, to 24% of the 79 tested in Portugese, to 66% of the 82 tested in French, and to 18% of the 97 assigned to Nepal, West Pakistan, or East Pakistan and tested with various other languages. Statistical tests of differences in these percentages have not been made since the nature of the samples involved is not known. The high percentage of S-3 or higher ratings in Spanish, as compared with the data of Table 5-1, suggests that appreciable learning of foreign language *may* have occurred following mid-tour. However, it should be noted that a larger study conducted between the middle and the end of duty (Allard, 1966d) found only 37.8% of 1,507 Volunteers in a variety of countries to earn S-3 ratings or above.

Allen and Herring (1968) have reported on a self-rating technique which correlates .71 with FSI S-ratings. This was a series of questions about ability to cope with certain real life language-use situations in the most frequently used language or dialect of the particular area of the Philippines where a Volunteer was serving. Ninety-seven and seven-tenths percent of Volunteers reported they could "exchange preliminary or casual greetings when meeting strangers," but only 9.52% said they could "discuss the details of American social problems, such as the racial issue," in the appropriate dialect. In non-situational self-ratings, 88.6% of Volunteers said they were able to say, "There are no more classes today," and only 18.2% said they were able to say "He threw it at me," in the appropriate language or dialect. On the average, the Volunteers said they could translate about 69% of 20 common English words into the appropriate local terminology.

A further indication of the level of language attainment comes from Baumann (1964, p. 142), who reports that on the MCA Oral Proficiency Test (originally developed for NDEA summer teaching institutes) Trainees in Spanish and Portugese Peace Corps language programs achieved scores as high as or higher than those of teaching majors in Spanish or Portugese at the University of Wisconsin, Milwaukee.

Carroll (1966, pp. 97-98) has shown that certain self-ratings in Spanish obtained at mid-tour can be predicted as well as proficiency test scores can be predicted for persons who had taken a Spanish placement test at the beginning of training, and almost as well as proficiency test scores for persons who had not taken a Spanish proficiency test because of little previous Spanish training. Self-ratings obtained by Allard (1966a, Table 11) show that among approximately 3,400 returning Volunteers responding there were wide differences in local language fluency as a function of regional assignment. Thus 19.1% of Volunteers in Latin America reported excellent fluency, compared to 2.4% in North Africa - Near East - South Asia, 3.0% in East Asia and the Pacific, 4.2% in Africa. Field raters and FSI examiners also judged mid-tour language competence to be higher in the Latin American group (Allard, 1966d, Table 5). Presumably, some of this difference may have resulted from more frequent assignment to community development projects in Latin America and to teaching assignments in other regions, with teaching being performed in English. This inference is consistent with a further fact from the table just cited: Field raters judged that knowledge of the local language was more essential in Latin America than in any of the three other regions where Volunteers were assigned. However, comparisons are needed in which the same foreign language is required in different regions, so that one can be sure regional differences in PCV language competence are not attributable to differences in difficulty of the various languages involved.

Trainee Factors Related to Amount of Foreign Language Learning

Carroll (1966) developed predictive equations for several Spanish language criteria as a function of three variables: Σ MLAT (the sum of the scores for Parts 3, 4, and 5 of the MLAT), the placement test score, and the section placement score. The section placement score was determined by statistical manipulation of the section assignment for each student, which in turn depended upon the Spanish placement test score and any other information the Spanish instructors had about each Trainee's prior exposure to Spanish or related languages. Carroll presents indirect evidence that MLAT scores *may* have been employed in section assignment in Portugese classes but does not indicate whether this was true in Spanish classes. In either case one can view the section placements as an attempt to improve upon predictions based on test scores by adding an element of subjective judgment based on prior knowledge, a somewhat informal approximation to the Bayesian approach in statistics (Cotton, 1967, pp. 35-40, & 72-74; Mosteller, Rourke, & Thomas, 1961, pp. 143-150 & 200-301).

We consider only Carroll's predictions of the Speaking (MA Form) test from the MLA Cooperative series. For the 218 students (Group A) who took a Spanish placement test at the beginning of Peace Corps training, Carroll (1966, p. 43) found the following regression equation: Speaking score = 26.27 + .25 Placement Test + .06ΣMLAT + .18 Section Placement, yielding a multiple correlation of .71. For the 118 students who did not take the placement test (Group B), the following regression equation was obtained: Speaking score = 9.22 + .20 ΣMLAT + .26 Section Placement, resulting in a multiple correlation of .46. Each of the predictor variables in these two equations makes a significant contribution to the prediction except for ΣMLAT in Group A, suggesting that aptitude becomes less important as prior training increases. For Group A the beta weights (not shown but considered to be a better measure of relative contribution than the coefficients in the equations above) indicate that the placement test is a better predictor than the section placement scores. For Group B the beta weights show ΣMLAT to be a better predictor than Section Placement. Even higher *R*s appear with other criteria. Reporting of shrunken *R*s was not mentioned by Carroll but seems unnecessary in view of the large sample size and small number of predictors.

In addition to Carroll's findings, we note Colmen and Boulger's (1964) report that for 101 Trainees destined for Latin America the correlation between

MLAT and Spanish language achievement tests in listening and reading ranged from .37 to .46 ($p < .01$ in each case). Fiks (1968c) found a .30 correlation between MLAT at the beginning of training and FSI rating at the end of training in French, Spanish, or Portugese, compared to a .11 correlation for the more exotic languages. This difference appears to reflect zero predictability for exotic languages in projects having 280 or more hours of foreign language instruction, there being approximately equal correlations for common and exotic languages when training programs with less than 280 hours of foreign language instruction are considered. These correlations, and most others reported by Fiks and associates which involve FSI ratings, are corrected for grossness of grouping by a technique developed by Jaspen (1946).

Prediction of FSI Ratings from Training Conditions

Fiks (1968b) has attempted to learn how a variety of teacher characteristics, teacher practices, and Trainee attitudes or perceptions are related to language performance at the end of training, as measured by FSI ratings (S- or speaking ratings). These data compare individuals from different training institutions or compare groups trained at different institutions. No attempt was made either to assign Trainees randomly to different training projects, match Trainees in different sites, or correct statistically (impossible though this task really is) for differences between Trainees in the different projects. The data are, in essence, correlational. Therefore, even assuming adequate sampling procedures, which is not true except within projects, where a 20% random sample was obtained (Fiks, 1968d), these data should be taken only to indicate with what accuracy one can predict FSI ratings once the value of the independent variable is known. Except possibly on a very tentative basis, they should not be taken as a basis for prescribing Peace Corps training procedures until the possibility of contamination by other correlates such as prior ability or prior knowledge of a foreign language is known. Fiks seems to have taken a naive viewpoint on this matter, making repeated recommendations about desirable training procedures when a more suitable recommendation would have been that true experiments be performed to determine if independent variables highly correlated with the criterion would in fact, when manipulated, influence the learning of a foreign language by a group of PC Trainees.

A second curious feature of this study is that Fiks developed an initial index (IPI) and a final proficiency index (FPI), each of which failed to meet the logical criteria he set forth for them. These indices were intended to measure overall foreign language performance of a Trainee group, such as a PC training project at Utah State University in Summer 1967. Fiks (1968b, Introduction) asserted, " . . . the mean is inappropriate because the FSI scale has only ordinal mathematical properties making use of that statistic questionable." But his Eq. (2), defining FPI, and Eq. (3), defining IPI, when corrected to conform to the calculational examples actually given are demonstrably equal to one-half of the mean FSI, with FSIs with plus signs affixed having the plus signs changed to .5 values. Thus the IPI and FPI are simply mean FSIs divided by Carroll's minimal standard of an FSI of 2 required for satisfactory performance in the field. But, if there is a basis for objecting to the use of a mean FSI (see Burke, 1963; Kaiser, 1960; Lord, 1953; Savage, 1954; Siegel, 1956; and Stevens, 1946 for arguments for and against the use of means with ordinal data and other data not having the properties of interval or ratio scales), the same basis must be used for objecting to the FPI and the IPI.

Having raised methodological objections, we now inquire about the results themselves. Chi-square tests were reported for 13 comparisons of individual end-of-training proficiency in FSI units and procedural or attitudinal variables. Each of the 13 tests was performed once for instruction in common Western languages (French, Spanish, and Portugese) and once for instruction in exotic languages (all others for which Peace Corps training was then occurring), with N s ranging from 128 to 204 for common languages and from 97 to 163 for exotic languages, depending upon the availability of certain items of data for certain Trainees. Of the 26 tests performed, 13 yielded significant χ^2 s. We list these 13 findings in order of apparent magnitude (estimated by χ^2/df since the expected value of χ^2 under the null hypothesis is the number of degrees of freedom), with a C referring to common languages, an E referring to exotic languages, and findings of equal magnitude being separated by a comma rather than a semi-colon. In each case we list the condition which leads to higher FSI ratings; in rare cases for which the trend is not consistent for different FSI vaules, we define favorable as leading to more ratings of FSI = 2 or above.

The 13 favorable conditions are: Visits to class by language coordinator occur either several times per week or no more than once a month, not with intermediate frequency (E); Trainees are asked to respond individually rather than in chorus in foreign language drill (C); little individual attention given in language laboratory (E); no or infrequent use of English in foreign language class (C); Trainee has a highly favorable attitude toward his language training (E); Trainee rates the classroom attitude of his foreign language teacher as very enthusiastic (E); Trainee has a short time lag in comprehension of language material presented(C); much individual attention given in laboratory (C); teacher talks little in class (E); six or more hours of language laboratory per week (E); less heavy class emphasis on drill (E); use of simulated cultural immersion (C); and very positive reactions to foreign language instructors as people (C).

Though five of the 13 significant findings apply to exotic languages, there is no case in which the same significant result occurred for both kinds of language instruction. In fact, amount of individual attention yielded signifcant findings in opposite directions for the two analyses. If cases of near-significance were also reported here, further inconsistencies would be noted between results for common and exotic languages. Thus even at a correlational level we cannot point to any trends which are consistent for both kinds of languages.

Fiks (1968b) also reported 16 significance tests on project performance as a whole, using an achievement of change index equal to FPI-IPI, and letting the number of observations in the t or Kruskal-Wallis test employed be the number of training projects for which these achievement indices were computed. Essentially chance significance occurred: Of 16 tests, one yielded significance at the .05 level or better. That test indicated that final FSI Speaking Tests had higher scores if administered before Final Selection Board meetings occurred, than if administered afterward. This difference may be due to anxiety about FSB requirements or may be due simply to chance. The lack of significance in these findings may result from the instability of change scores (Harris, 1963; Lord & Novick, 1968, p. 159).

Dependence of Language Learning on Training Method

Fiks and Muth (1969a) compared data from approximately 1,388 Trainees given only regular foreign language training in 1967 to 500 Trainees given a hyper-intensive language training (HILT) followed by regular training in 1968. In the former sample, foreign language instruction usually was limited to 250 or fewer hours and was dispersed throughout the training period. With HILT about 300 hours of instruction were provided, 146 hours median in a four week pre-training period of HILT proper and 160 hours dispersed in a regular training program of eight weeks. During the HILT period proper, Trainees spent about seven and three-quarters hours per day in foreign language training, with no other training taking place. In the regular training period thereafter, foreign language instruction occupied about three to four and one-half hours per day; other subjects were taught in the remainder of the day.

Among the hyper-intensive training (HILT) programs certain instructor groups **required** more exclusive use of the foreign language than did others. Seven programs are called TILT (Total Inundation Language Training) because use of English was emphatically discouraged during the HILT period. Six programs are called JILT (Just Intensive Language Training) because the use of English in and out of class was not prohibited during the HILT period.

The primary criterion of foreign language achievement was improvement in FSI scores. However, for common language instruction and only in the 1968 training groups employing HILT, objective tests were also given. The Pictorial Auditory Comprehension Test (PACT) was used in Spanish and Portugese programs; the MLA-Cooperative Speaking tests and Listening tests were administered both in the French and Spanish programs. Improvement during training was noted with the objective tests, but comparisons designed to show the effects of different training methods were not reported.

The JILT and TILT methods produced no significant differences in mean FSI improvement in the common languages, regardless of whether the analysis was based on Trainees with some initial proficiency or with none. However, at the end of the full training period for exotic languages there was an 0.36 mean increment superiority with JILT after adjustment for MLAT differences between groups, a significant indication that prohibition of English was detrimental to progress. Because Fiks and Muth did not conduct a true experiment, this result must be considered only suggestive of the differential effects of JILT and TILT. Instructors decided for themselves which method to use, and subjects were not assigned randomly to instructors; therefore a variety of explanations for the differences between groups can be imagined.

This is a place where scientific and practical research concerns may diverge: The scientist wants to know the effects of the training method per se. The Peace Corps wants to maximize learning. Had the Trainees been assigned randomly to training projects, one could argue that it has been shown that instructional teams which chose JILT rather than TILT were more efficient. Therefore, instructional teams should be selected by giving preference to those which prefer JILT -- not because JILT is necessarily better but rather because either the method or the instructional team preferring it or the combination of the two factors is better.

When FSI scores at the end of training are compared for the HILT group of 1968 and the regular group of 1967, performance with the common languages was significantly superior with HILT. On the only exotic languages taught in both years (Amharic, Hindi, and Punjabi) the HILT group was significantly poorer. No significant differences occurred for exotic languages when the analyses included all such languages taught in either year. Analyses included statistical correction for effects of different degrees of language aptitude or number of instructional hours but not for amount of initial proficiency in French or Spanish in projects using those languages. However, there is evidence (Fiks & Muth, 1969a, Table 20) that the HILT group was superior in French and Spanish regardless of whether Trainees with or without initial proficiency are considered.

Regardless of the reasons for superior performance in common languages by the HILT group, it is encouraging to note a mean FSI of 2.09 for all 174 students in the French and Spanish projects, including 106 persons without previous training in the language being taught. On the average then, Trainees in French and Spanish were meeting Carroll's criterion of an S-2 FSI rating required for satisfactory performance overseas. This does not tell what proportion met the criterion. Since less than half the Trainees had some initial proficiency, it may be that final scores were skewed to the right, making the proportion above S-2 less than one-half.

Relationship Between Amount of Foreign Language Training and Proficiency

Carroll (1966, pp. 11-14 and pp. 45-48) has argued that amount of foreign language learning should be an approximately linear function of time spent in such instruction. His evidence comes from the input side of the matter only: The first 24 units of a commonly used Spanish text in Peace Corps training projects shows an almost perfectly linear growth of cumulative number of grammar topics treated, as a function of number of units included. Cumulative number of vocabulary items covered is not quite linear but still approximates that ideal. Carroll's Table 2 shows that the number of sections of this text covered in 10 hours of class instruction was approximately constant at 1, with some variation as a function of the ability of the class being taught. Consequently, if students learned a constant proportion of the amount of material introduced, they should indeed exhibit a linear growth in grammar knowledge and an approximately linear growth in vocabulary.

Figure 5-1 shows the trend in PACT scores in Spanish for three small groups of Trainees, two with initial proficiency in the language and one without. Three points appear on each curve, one at the beginning of pre-training, one at its end, and one at the end of training. The bottom two curves are approximately linear as a function of hours of instruction; the upper curve shows slower learning in the first 68 hours than in later stages of training. These data are not an ideal test of Carroll's assumption of linearity in foreign language learning because the second data point marks the end of hyper-intensive foreign language instruction (6 to 8 hours per day) and the beginning of a period with perhaps half the density of such instruction per day(Van Cleve & Fiks, 1967).

Insert Figure 5-1 about here

Fiks and Muth (1969a, Figures 1 through 8, based on Ns of 10 to 36) provide a modicum of support for Carroll's predictions. Data points are provided at the beginning of training, after the highly intensive stage of language instruction ended, and at the end of training. (Unfortunately, no single test was uniformly administered on all three occasions. Commonly, mean scores on the MLA Listening test would be available for the first two testing occasions and mean scores on the PACT would be available on the first and third occasions, or a comparable rule with MLA Listening and PACT interchanged applied.) Of eight possible comparisons from these figures, at least five exhibit parallel-

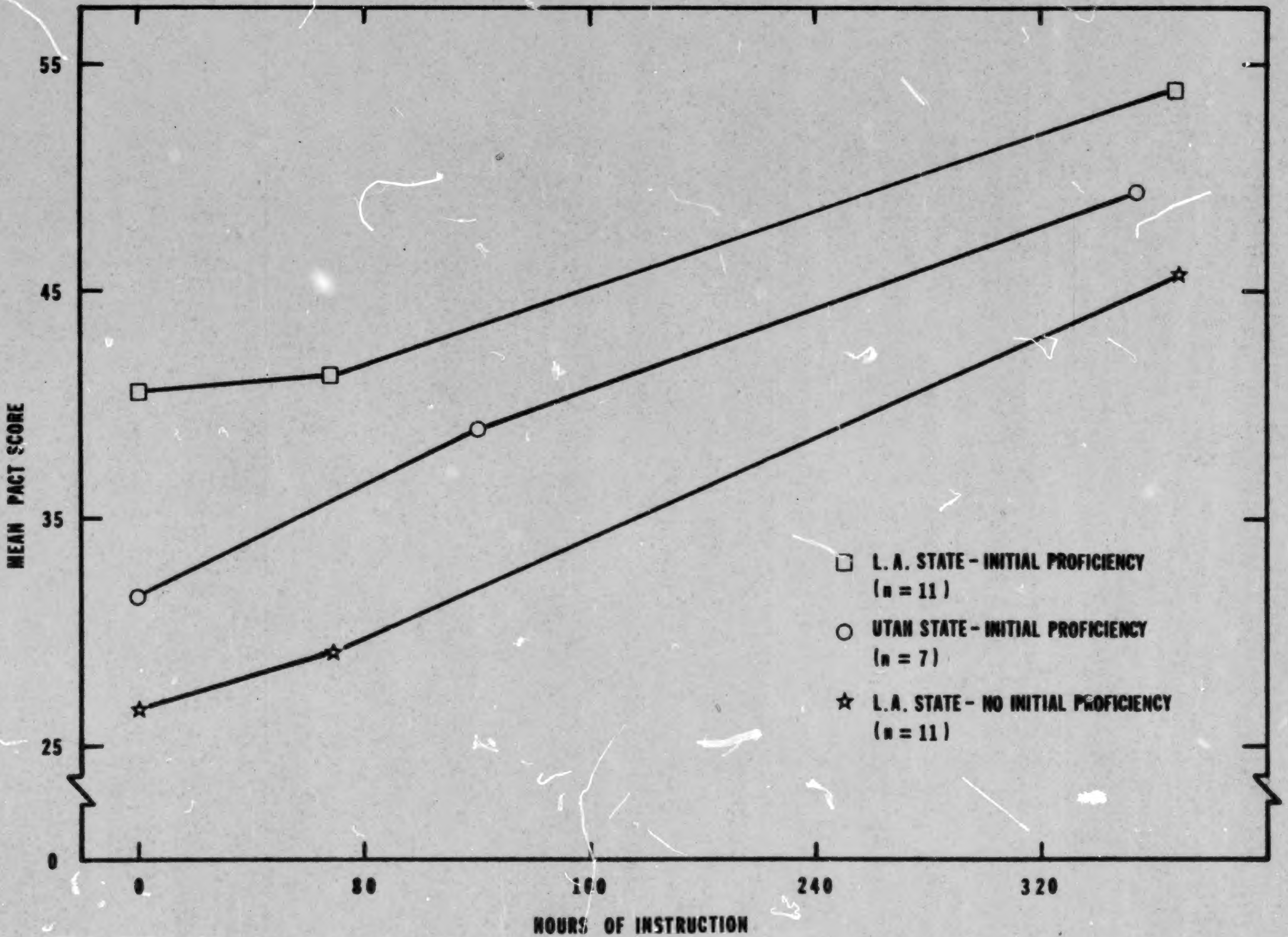

Fig. 5-1. Mean Pictorial Auditory Comprehension Test (PACT) scores in Spanish as a function of hours of Peace Corps language instruction for three training groups. The middle point in each curve marks the end of a super-intensive period of instruction. (Based on data from Tables 5 and 13 of Van Cleve and Fiks (1967). Used by permission).

ism of lines for the two tests, one extending from beginning of training to the end of intensive language training and the other from the beginning of training to its end. This may be taken to suggest linearity across the three points in time if comparability of units as scaled in these figures is assumed.

Figures 1 through 8 of Fiks and Muth (1969a) indicate that gains in MLA Speaking test scores from an assumed zero point for naive students at the beginning of training to the end of intensive language training and on to the end of PC training are nonlinear, with most average curves rising more rapidly early in training than later.

Correlational data on language learning as a function of amount of instruction (Fiks & Muth, 1969a, p. 26 and p. 44; Fiks, 1967a) also exist but seem even less relevant to Carroll's hypothesis than the scanty information just reported. The correlational data employ FSI scores or gains in FSI scores as the dependent variable, obscuring some possible effects by grossness of the measuring instrument. These correlational data suggest a positive correlation between amount of instruction and FSI level attained or FSI gain, except that Trainees with some initial proficiency in the language being taught show small effects, particularly beyond 250 hours of PC foreign language instruction. Among the objections to use of these data as evidence for or against Carroll's hypothesis of a linear rate of foreign language learning are: (1) Non-random assignment of students and instructors to the projects varying in number of instructional hours in foreign language and (2) the possibility that instructors who know they have only 50 or 100 hours for foreign language instruction will increase their assignments and rate of coverage of material in an attempt to compensate for the short teaching time available.

Relationships Between Language Performance Overseas and Other Variables

Much of the data on language performance overseas comes from the Language Competence rating made by Peace Corps administrators at the same time Overall Evaluation ratings are made. Since FSI speech ratings show a .50 correlation with Language Competence (Allard, 1966d), some validity can be attributed to the Language Competence measure. However, the study just cited also gives evidence of a halo effect: Whereas FSI ratings correlated significantly from .08 to .14 with job performance ratings, such as Job Competence and Overall Evaluation, Language Competence ratings correlated (also significantly) from .24 to .42 with job performance ratings, presumably because the same administrator made Language Competence and Job Competence ratings but not FSI ratings. (All correlations are in the direction of favorable ratings pairing with favorable ratings; minus signs because of inconsistent directions of some scales have been omitted.) Even more striking evidence of a halo effect came from a comparison of ratings of Volunteers' relationships with various people overseas and the two forms of language ratings (See Table 10, Allard, 1966d).

Dobyns, Doughty, and Holmberg (1966, pp. 266-78) have studied the relationship between spoken Spanish fluency, determined by FSI ratings obtained at the end of service in Peru, and accomplishment during that service. When FSI ratings are dichotomized into Fluent (FSI 3, 4, or 5) and Poor (FSI, 0, 1, or 2) and number of institutions founded, strengthened, or drawn into new activities by a given Volunteer are dichotomized into High (3 to 21) and Low (0 to 2), the resulting four-cell table (Dobyns et al., 1966, p. 277) yields a phi-coefficient of .200 and a non-significant chi-square of 2.0, by our calculations. There is some anecdotal evidence in the Dobyns report suggesting that fluency in Spanish is necessary for successful Peace Corps service and that lack of knowledge of an Indian language such as Quechua had disastrous effects on the work of certain Volunteers with Indian clients who did not speak Spanish. However, there seems to be no statistical evidence for requiring greater fluency than the Volunteers in the present study possessed, and there are certainly counter-examples of persons without great fluency in Spanish or Quechua, respectively, who made real accomplishments with Spanish or Quechua-speaking Peruvians.

Self-ratings of language fluency show a significant (r = .09 in absolute value) relation with perceived position (reputation and quality of relationship) with the Peace Corps field staff (Allard, 1966c, Table 1). This is smaller than the .24 to .42 for administrators' ratings but within the .08 to .14 range for correlations of independent FSI ratings and job performance ratings, reported two paragraphs above. Wrigley, Cobb, and Kline (1966b, Table 9) report a .23 correlation between language grade during PC training and the Foreign Language Fluency rating based on Form 298, an evaluation form for overseas performance. Cobb and Wrigley (1966) state without documentation that the evaluation by language instructors is the second best predictor of the Foreign Language Fluency rating, with peer nominations during training being the third, fourth, and fifth best predictors, the specific nominations being of those who will be most successful as Peace Corps Volunteers, who will adapt best overseas, and who will be reliable leaders in difficult situations.

Cobb, Wrigley, and Kline (1966b, Table 7) have found that the overseas Foreign Language Fluency ratings are highly predictable from achievement tests in Spanish or French administered at the time of application, with an r of .44 being obtained for the Spanish test (N = 865) and an r of .32 being obtained for the French test (N = 698). The Modern Language Aptitude Test (MLAT) has a correlation of .18 with overseas fluency, based on an N of 3,319. Apparently aptitude, though important, is less vital than previous achievement, presumably because of the limited amount of training time available. This comparison may be the reason that the MLAT has not been routinely administered in later years of the Peace Corps' existence.

Cobb et al. also found correlations of .24 to .31 between applicants' self-ratings of foreign language fluency of different kinds and their rated fluency overseas. It should be noted that the r s from this study which have been reported here are based on the first overseas ratings of fluency; later ratings tended to give somewhat lower correlations.

For further information about the relation of language fluency to overseas performance, the reader is referred back to the section called Prediction of High Ratings by Local Residents in Chapter 4.

Instruction in Other Subjects

General

Relatively early in Peace Corps history, one university with much experience in the preparation of Peace Corps Volunteers, the University of Wisconsin, Milwaukee, developed the following distribution of training time in a 12 week course consisting of 60-hour weeks of 10 hours per day of instruction (Baumann, 1964):

Language	310 hours
Technical studies (including 15 hours of communication theory)	143 hours
Area studies	100 hours
American studies, world affairs, and communism	55 hours

Physical training and recreation	70 hours
Health	30 hours
Peace Corps orientation	12 hours

Some indication of the academic quality of the instruction offered is given by the fact that this university authorized a maximum of 12 undergraduate elective semester credits for Peace Corps training and service. Eight units were normally to be given for the language training and four for training in area studies, international relations, communism, and American institutions. This decision followed a study by Baumann comparing the World Affairs sections of two Peace Corps training projects and two regular International Relations courses at the University. Though there were differences in the range and depth of the two kinds of courses (more topics being covered in International Relations but more complete coverage to certain topics being given in World Affairs), an analysis of time allotments, lecture topics, and text assignments indicated that the World Affairs course should receive 2 or 2.5 units of credit, compared to the 3 units given for International Relations. A comparison of examination scores in the two courses, based on similar types of questions composed by a single examiner and graded according to the same standards, showed a greater percentage of As and a lower percentage of Fs in the International Relations sections, possibly reflecting greater political science preparation among the regular students.

Communications Training

Whereas Baumann recognizes the fact that communications training includes more than foreign language, also taking "cognizance of such factors as source credibility, non-verbal communication, the impact of communication on group change, and the possibilities and limitations of the mass media in communications," Barnes (1963) has criticized another Peace Corps training project for employing unsophisticated methods of communications training, as well as devoting too little time to it. See Ruechelle (1962) for one program's approach to communications training, supplementary to foreign language training.

A further sort of communications training restricted to a fraction of all Volunteers is their preparation for teaching English as a foreign or second language. Marckwardt (1963) estimated early in Peace Corps history that about one-fourth of all Volunteers had been trained for this role, with many of the others finding themselves requested to perform it at some stage of their Peace Corps career. He stated that training programs for this purpose ranged from 35 to 150 hours of classroom instruction. Five components seem to be included in such programs: (a) A brief introduction to modern linguistics, (b) a contrast of the phonology, morphology, and syntax of English with those of the language of the host country, (c) use of the contrastive analysis in identifying the special difficulties that host-country residents will have in learning English, (d) an introduction to various foreign language teaching methods, and (e) practice in the preparation of teaching materials and lesson plans for use abroad and examination of materials and techniques used in the host country country for teaching English.

Possible Personality Modification through Training

Psychiatrically oriented training personnel may hope that Peace Corps training will modify personality traits as well as providing formal knowledge and generalized communications skills. G. Fisher (1968) used high scores on the Marlowe-Crown Social Desirability Scale as indications of defensiveness, i.e., unwillingness to report personal characteristics which might be judged negatively. In one Peace Corps training program where students were encouraged to develop the training which they would undergo (a "democratic" program), Fisher found a .57 point-biserial correlation between his clinical judgment of changes in defensiveness and Social Desirability Scale changes in the same Trainees during the training program. There was also statistical evidence of greater favorable change in peer evaluation scores for those Trainees clinically judged to have become less defensive than for those not so judged. However, there was no relation between either change scores or final scores on peer evaluation and the Social Desirability Scale.

Fisher compared the group just discussed and another "democratic" PC training program to three "authoritarian" PC training programs. A significant ($p < .001$) interaction between time of testing (pre- and post-training) and instructional method appeared. Whether the effect is to be attributed to teaching meth or to method of student assignment is questionable, for Trainees from the two methods differed markedly on pre-training ($p < .001$), this difference disappearing with training.

An "Experiment" in Integration of American and Area Studies

Hobbs and Lofchie (1967) felt (partially because at UCLA area studies and studies of American institutions each received only 20 hours of instruction in order to make time for extensive Peace Corps training in foreign language and other topics) that studies of the United States and of the country for which the Trainees were bound might well be combined. This combination was expected to eliminate overlapping content in the two courses and to prepare future Volunteers to make the comparisons between countries which they would inevitably be making overseas.

Hobbs and Lofchie implemented such a combined course in three UCLA Peace Corps training programs preparing Trainees for service in Nigeria and Ethiopia. Ten of the total 40 hours available were allotted for study; the remainder was spent in seminar discussion among the two instructors, one from American studies and one from area studies, and the Trainees. Different Trainees usually read and presented or discussed different background material, thus maximizing coverage without making reading assignments too long. Formal comparative analysis techniques proved too advanced for the students, but discussion of specific problems common to both the U. S. and the host country-to-be proved profitable.

No statistical evaluation of the innovation is reported. However, written evaluations by students are reported to have been extremely favorable and much more so than before integration of the two topics. Correspondence with PCVs in Nigeria and personal discussion by one author with Volunteers while they were serving in Ethiopia and Kenya permits comparison of reactions by Volunteers who received the integrated training and those who did not. Nearly every Volunteer whose instruction in these two areas was separated thought that American studies were a waste of time. The attitude toward this topic was noticeably more favorable among persons who received integrated training in the two areas. Reactions to area studies were generally favorable regardless of the method of instruction.

Health Training

Kerrick, Clark, and Rice (1967) have described a 20-hour course given in the UCLA School of Public Health as part of the preparation of Peace Corps Trainees for service in Ethiopia as teachers in secondary and higher elementary schools. The first 10 hours of class treated communicable disease theory, with special emphasis on disease prevalent in the host country. The second 10 hours covered problems of culture and health, community health education, school health, and related topics. Kerrick and her associates studied the effects of two variables, lecture versus participation methods of teaching and one physician-health educator team versus another similar team. Each team taught two sections, one with each method. Both before and immediately after the course, the students were measured on (1) health knowledge; (2) attitude, indicating the perceived severity of 25 illnesses likely to occur overseas; (3) belief as to the avoidability of these illnesses; (4) expressed likelihood of following 27 recommended health-related behaviors; and (5) likelihood of engaging in community health activities. Time scheduling procedures are not described, but for each of the two classroom hours used, 50 students were randomly assigned to the participation section and the remainder placed in the lecture group. Attrition during training led to final sample sizes of 46 or 47 for the Participation Group, Team 1; 73 or 74 for the Lecture Group, Team 1; 38 for the Participation Group, Team 2; and 113 or 114 for the Lecture Group, Team 2, with alternative *N*s being given for groups in which the number of Trainees completing each form varied from form to form.

The lecture procedure was defined to include no more than 10 minutes per session of class questions and communication among students. The participation sessions each included 15 to 20 minutes of lecture and 30 to 35 minutes of student-to-student interaction. The type of instruction had no significant effect upon knowledge gain. However, one teaching team's students had significantly greater knowledge gains than the other teaching team's. As expected, there was a significant overall gain in knowledge during the course.

Overall mean attitudes about the severity of diseases did not change during the course. However, the participation method led to less severe ratings of diseases after training than before. No other experimental variable affected these attitudes. Mean belief in the avoidability of these diseases did increase significantly during training, but the teaching team and teaching methods had no differential effects. Trainees said they were more likely to follow the 27 recommended behaviors after training than before, but the team or method variables had no significant effect.

The effects upon likelihood of engaging in community health behaviors are striking: At the beginning of training there was a strong tendency not to claim likelihood of such activity. This tendency was unchanged at the retest of the Participation Group. However, the Lecture Group was, significantly, even less favorable to such activities by the end of the health course.

It is interesting to note that the overall reaction of students to the health course was that they gave significantly higher ratings to the teacher-team producing the greater learning and to lecture classes as opposed to participation classes.

Kerrick et al. (1967) have measured attitudes about the severity of illnesses and beliefs about avoidability scales by having Trainees rate each illness on a 7-point chart for each of 8 adjective pairs, as described in Kerrick (1969). For "good-bad," for example, the response could be completely on the "good" side or on the "bad" side, or in one of five intermediate positions. Kerrick (1969, Table 2) shows that "mild," "good," "simple," "curable," and "painless" were the favorable words in adjective pairs which factor analysis (Clark & Kerrick, 1967) determined to have the highest loadings on the Severity attitude. "Avoidable" and "clean" had the highest factor loadings for the Avoidability belief.

Kerrick and Clark (1969) apparently used the data from Kerrick, Clark, and Rice (1967) which has already been discussed as the basis for predictions of the occurrence of medical problems overseas. Items (1) through (4) at the beginning of this section (both the scores obtained at the beginning of training and those obtained at the end of training) were used as predictor variables, together with course reaction scores obtained at the end of the course. Table 5-3 presents the percentage of correct predictions of four medical indices,

Insert Table 5-3 about here

these predictions being based on separate step-wise discriminant functions for each index. These predictions ranged from 57.6% correct in predicting which Volunteers had any illness that the reporting physician judged to have a psychological component to 67.1% correct in predicting which Volunteers would report missing any days of work because of non-hospitalized illness. Although these predictions appear moderately successful, better predictions are easily made. If we simply predict that the more frequent event will always occur (the blanket prediction discussed by Meehl and Rosen, 1955 and mentioned in Chapter 4 above), Table 5-3 shows that the percentage correct ranges from 65.7 to 91.4.

If percentage correct is the essential criterion for prediction in this case, then use of these tests is not appropriate for predicting health problems. In effect this criterion makes a false positive (falsely predicting a medical problem) equally important to a false negative (falsely predicting no medical problem). Suppose it is argued that false negatives are twice as

Table 5-3

A Comparison of the Effectiveness of Predicting Overseas Incidence of Health Problems from Health Training Data and from the More Frequent Event

(Data reported or computed from Tables 1 through 4 of Kerrick and Clark, 1969, involving Ns of from 150 to 210).

Health Index	% Successfully Predicted	
	Tests	Blanket Prediction
No. of physicians' visits (0-3 vs. more[a])	61.5	72.0
Days work missed because of unhospitalized illness (none vs. some)	67.1	91.4
Days hospitalized (none vs. some)	61.3	88.6
No. of illnesses with a psychological component (none vs. some)	57.6	65.7

[a] The more common condition, which is always predicted with the blanket prediction, is underlined for each dichotomy.

important as false positives with a certain medical problem because the costs to the Peace Corps are so great with this problem that it is preferable to minimize risks of those costs even if occasional healthy or health-prone Volunteers are kept from rendering their services overseas. In such a case the test battery might prove to be useful, as a little algebra and a good deal of cross validation could jointly show. On the other hand, if a false positive is any more regrettable than a false negative, suggesting that all possible Volunteer help should be obtained overseas even at the risk of medical problems, then we conclude that use of the test battery is inferior to use of the blanket prediction.

Kerrick and Clark (1969) also performed analyses in which all items previously mentioned, except course reaction forms, were retested, usually with abbreviated measuring devices, after six to eight months in the field (Exam III), and at the end of the two-year period of service (Exam IV). Addition of these items to the original battery did not substantially improve discrimination between people with any particular health problem and those without.

A further reason for the poor quality of test predictions is given by Goerke, Rice, Kerrick, and Clark (1967, p. 151) in a separate report of most of the findings discussed in this section. Goerke and his associates found that the monthly morbidity statistics being predicted by these tests were systematically in error. Comparison with overseas health jackets (packets containing health records) for individual Volunteers indicated that there were 60% more gastro-intentinal infections, 40% more respiratory infections, 150% more amebiasis, and several times as many cases of pneumonia listed in the jackets as in the morbidity reports. Apparently the transcription from health jackets to morbidity reports was shoddily done. To the extent that it changed the rank order of amount of illness per Volunteer, it also tended to hide any true relationship between test scores and health status. Goerke et al. (1967, p. 56) also mention reports of visiting investigators that relatively serious illnesses are sometimes not reported to Peace Corps physicians, a further source of error in prediction.

Kerrick and Clark (undated) have reported trends in expressed likelihoods of following 11 (out of the original 27) recommended personal health practices and engaging in community health activity, as measured in the two examinations during training plus Exams [illegible]I and IV given in the field. These measures, like the severity and avoidability measures discussed earlier, were derived from a principal components factor analysis of semantic differential data (Clark & Kerrick, 1967). Each health practice was rated on eight scales, each anchored on the ends by opposite members of an adjective pair. Factor analysis showed three dimensions: Likelihood of Behavior; Public/Private Behavior; and Ease of Behavior; with more than half the variance being accounted for by the first named dimension. The likelihood scores analyzed by Kerrick and Clark (undated) were largely based on the scales Likely-Unlikely, Frequent-Infrequent, and Effective-Ineffective. However, each of the scales was involved to the degree merited by the component coefficient of that scale for the likelihood dimension (Clark & Kerrick, 1967, pp. 79-85). Figure 5-2 shows the trend in five health practices over the four test periods. All but Engaging in Community Health Work increased during training. However, only Wearing Clean Clothes and Wearing Shoes Outside maintained high likelihood scores overseas. Kerrick and Clark (undated, Fig. 2) also showed improve-

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Insert Fig. 5-2 about here

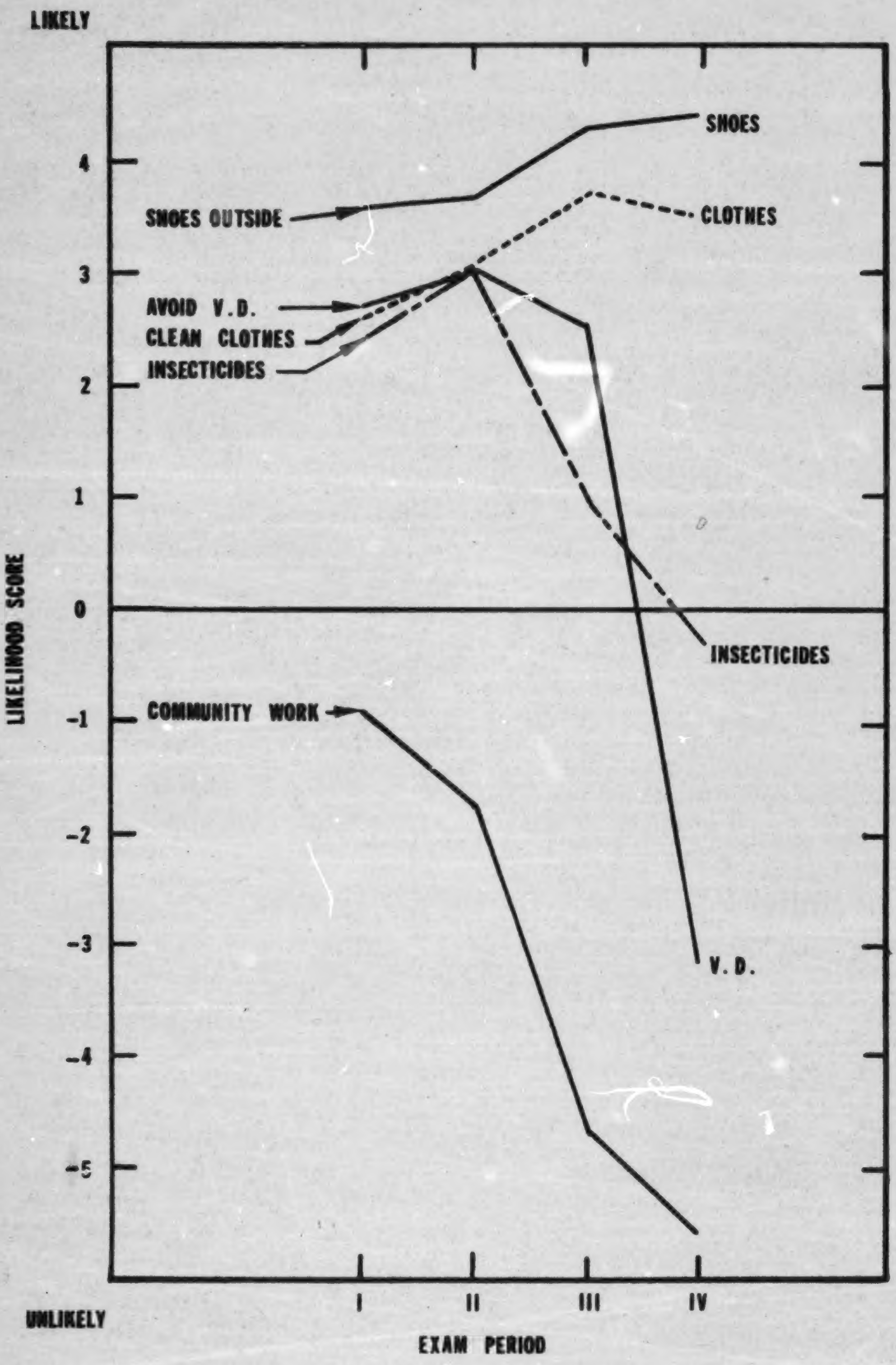

Fig. 5-2. Judgment of the liklihood of each of five health practices at two stages of Peace Corps training (Exams I and II) and two stages of overseas service (Exams III and IV). (Reprinted from Kerrick and Clark (undated, Fig. 2) by permission.)

ment in likelihood of seven safe food and drink practices during training, each practice declining from Exam III to Exam IV, with inconsistent trends from Exam II to Exam III. Four practices which maintained positive likelihood throughout were Eating Well-cooked Meat, Drinking Pasteurized Milk, Using only Safe Water, and Eating only Pasteurized Ice Cream. The following practices were less likely: Refusing Lettuce and Raw Vegetables, Refusing Ice unless Pure, and Eating only Safe Food Away from Home. Kerrick and Clark suggest that fear of offending a host is a major impediment to good health practices overseas. They also mention anecdotal reports of the proclivity of Volunteers to exist primarily on Spam and peanut butter, presumably because of their safety and ready availability.

Organizational Considerations in Training

Innovative Training Methods

General. One can probably say with truth that an element of innovation occurs in every Peace Corps training program. Most innovations which have been used more than once probably represent attempts to make Peace Corps training more practical and less like university training. Succeeding pages discuss training programs intended to increase physical stamina and ability to survive under extreme physical hardships (Jourard, 1963), to accustom Trainees to non-Caucasian society and to a reduced standard of living (Maretzki, 1965), and to develop skills useful in community development projects (Taylor, Yagi, de Mik, Branum, Tucker, & Wight, 1967), as well as discussing experienced-based training and in-country training. We think it important to mention that these different kinds of training are not necessarily incompatible with each other.

Development of Physical Stamina

Though objective measures of physical performance changes during Peace Corps training have not been published, Keogh, Egstrom, and Gardner (1965) have reported on sit-ups, push-ups, broad jump, and 600 yd. run-walk measures obtained for 517 men and 400 women at the beginning of their Peace Corps training. This investigation showed that though men in the 20 to 24 age group out-performed women of the same age group as expected, men showed a substantial decline in the thirties whereas women did not, except on the 600 yd. run. In fact, for men of 40 and over (no upper limit stated),the men's performance on sit-ups and push-ups was poorer (no statistical test performed) than for women from 20 to 24. This suggests that special attention may need to be paid to the physical training or physical difficulty of work assignments of men over 30 in addition to the traditional consideration given to women.

One approach to physical training in the Peace Corps has been to send certain groups of Trainees to a special physical fitness camp before or after the basic training described earlier in this paper. Jourard (1963) has described his experiences as a participant observer in the "Outward Bound" program at Camp Crozier, Puerto Rico, where he spent $3\frac{1}{2}$ weeks in such activities as drownproofing (lying relaxed in the water for an indefinite period of time), rock climbing, hiking, using survival techniques,and physical exercise, in addition to some activities not oriented to physical fitness. The Outward Bound program (no longer used by the Peace Corps) was intended to increase Trainees' self-confidence and willingness to attempt difficult tasks, in addition to improving specific physical skills. However, Jourard found little, if any, evidence of change of the Jourard-Secord Scales of Body and Self-Cathexis (measuring a person's satisfaction with 40 bodily functions and 40 personality traits) or the Jones Pensacola

Z-scale (measuring self-reliance) between the end of university Peace Corps training and the last day of training at Camp Crozier.

Guthrie (1965) has reported, without numerical documentation, that Trainees who had previously undergone "Outward Bound" training in Puerto Rico performed much better in physical tests at Pennsylvania State University's Peace Corps training center than Trainees who came to the center without special preparation. However, the latter group came up to parity with the former by the end of the regular Peace Corps training program. Guthrie also cites experience in the Pennsylvania State training program suggesting that the Outward Bound program builds a kind of confidence which may mislead the Trainee into feeling he is culturally as well as physically prepared for Peace Corps duty already. Two other papers by Guthrie (1963 and one undated) elaborate on his perception of special cultural problems encountered by Volunteers serving in the Philippines. For example, a major Filipino concern is for smooth interpersonal relations ("SIR"), necessitating restraint by Americans, who are much more frank in their social interchange.

Transition Training. Another approach to the preparation of Trainees for difficult field assignments is to give them transition training, locating them for part of the total training period in a relatively primitive village setting such as Waipio on the island of Hawaii in order that they may accustom themselves to sensory and visceral experiences like those they may experience following training (Maretzki, 1965). Part of the purpose of transition training is to accustom future Volunteers to living without electricity, to bathing in a river rather than a bathtub, or to other physical changes; another part is to help them minimize culture shock resulting from sharp changes in social and other environmental experiences as one moves from one culture to another.

Transition training rarely provides experience in precisely the cultural or even geographical milieu for which the Trainees are being prepared. However, it is intended to help them experience a mild degree of culture shock and thus to inoculate them against the effects of more extreme changes later, in effect producing transfer of training from the Waipio experience to the field assignment.

Transition training has not received empirical evaluation to date. However, Maretzki makes a plausible case for it, referring both to the scholarly literature on culture shock and to the objections which have been raised to over-intellectualized teaching about other cultures, as contrasted to teaching by providing experience in those settings.

Situational training. Training procedures developed by Taylor and his associates (Taylor, Yagi, de Wik, Branum, Tucker, & Wight, 1967) are similar to those of transition training in their de-emphasis of textbook materials. However, Taylor is less concerned with cultural differences and more concerned with the development of specific work skills appropriate to community development tasks of Peace Corps Volunteers. The training methods developed by Taylor et al. were supplemented by paper and pencil tests and by work sample (or situational) tests, both intended to determine whether training led to improved performance at the end of training, compared with the beginning of training. These pencil and paper tests include having a Trainee read a detailed description of a hypothetical community, identify problems,and describe how he would deal with them. (This exercise can later be used as a training device.) A second measure is a Critical Incidents Exercise in which a Trainee reads a statement of 30 actual Peace Corps incidents, rating each as to how well the

Volunteer involved handled the situation. A work sample task is illustrated by a Committee Meeting Situational Exercise in which three actors pretend to be host country nationals and the Trainee tries to act appropriately. (Tapes of this exercise are also used as experimental training exercises.)

This project developed two 30 item Critical Incidents Exercises, one intended for a pretest at the beginning of PC training and one for a posttest at the end of training. Each test could be scored in two basic ways to reflect different emphases toward people and toward projects, respectively, mentioned by Haigh (1963). The first scoring procedure was called one for Human Development Orientation and the second for Project Orientation. Various scoring variants of these tests showed the individual items to be relatively homogeneous. However, cross-validation did not yield significant correlations with peer ratings or Final Board Ratings. Significant *r*'s appear between the Critical Incidents Exercise (posttest) and independent behavior ratings of Human Development Orientation, Project Orientation, and (work) Technique, all taken from a situational test (Taylor, et al., 1967, p. 133, and Yagi, 1966, p. 56).

The last finding reported is minimized somewhat in importance by Taylor et al.'s (1967, p. 152) determination that factor analysis of post-training scores on the Critical Incidents Exercise (a pencil and paper test) and on a situational test administered at six Peace Corps training centers showed two dominant factors, one being primarily associated with each test. Factor analysis of pre-training scores on two pencil and paper tests and one situational test, all intended to measure Human Development Orientation and Project Orientation, also showed little factorial similarity from different tests.

These data suggest that there is less behavioral unity in individuals than the unity of scoring procedures developed might imply. One might hope that the reliability and validity of measures of variables such as Human Development Orientation might be increased by using composite scores based on several tests, just as the Spearman-Brown formula implies increased reliability as a result of doubling the length of a test if comparable items are used, a condition not met in this case, of course. In another part of the Taylor et al. project,Yagi (1967, p. 80). found that pooling scores from two situational tests led to three highly significant ($p < .01$) correlations of .37 to .41 of general situational measures based on content analysis of tape recorded observations and a simpler situational measure consisting of the number of questions a Trainee asked which sought ideas, plans, suggestions, and interpretations of others. But, as noted in our discussion of Taylor et al. (1967), Yagi found little evidence of validity for situational measures as predictors of Final Board ratings, peer nominations, or FAO ratings. These studies were intended to use criterion measures based on overseas performance but were only able to employ the intermediate criteria just noted because of restrictions of time and money for the completion of their work. The reader of these studies should bear in mind that masses of 50 to 100 correlation coefficients are often presented in a single table. If these were completely independent correlations, 5% of them should be significant at the .05 level by chance alone. In many instances the frequency of significant correlations per table is close to this predicted number, making it unwise to draw conclusions based on the assumption that any specific significant correlation represents a genuine, nonzero relationship between the variables measured.

Experience-based training. Harrison and Hopkins (1967) received a Douglas McGregor Memorial Award in the field of organizational development for an article describing their experience with and rationale for an experience-based

Peace Corps training program. Since this article has served as a guide in the operation of some other Peace Corps training programs, it will receive a good deal of attention here despite the absence of an empirical test of effectiveness of the teaching methods employed.

Harrison and Hopkins argue that university education and overseas education customarily have different interpretations of their goals, necessitating different methods. For example, the goal of problem solving in the university setting is described thus: "A problem is solved when the true, correct,reasonable answer has been discovered and verified. Problem solving is a search for knowledge and truth. It is a largely rational process, involving intelligence, creativity, insight, and a respect for facts." (Harrison & Hopkins, 1967, p. 436.) Correspondingly, problem solving in overseas education is described as follows: "A problem is solved when decisions are made and carried out which effectively apply people's energies to overcoming some barrier to a common goal. Problem solving is a social process involving communication, interpersonal influence , consensus, and commitment."

Goals of communication, decision making, commitment, and ideals in the two kinds of education are similarly contrasted by Harrison and Hopkins. Having stated the dichotomy, they go on to develop a model for cross-cultural education. The design principles they advocate are (1) that the Trainees should be continually required to evaluate situations, define problems to solve, develop solutions, and act upon them; (2) that Trainees should work primarily with data gathered by themselves or close associates, not with secondary sources nor with abstract information; (3) that Trainees should be forced to make choices among competing values with attendant risks during training, just as they will have to make choices and face risks during overseas service; (4) that Trainees should learn to follow discussion and analysis of problems by decision and action; (5) that the authority of instructors should be used to support the Trainee and to restrict him so that he keeps in touch with the problems he is committed to solving, but this authority should not be used to provide information or to make choices for the Trainee, thereby diminishing his habits of independent action; and (6) that experts such as returned Volunteers have the responsibility to focus on the principles of effective overseas service, not upon raw information or anecdotes about such service.

Harrison and Hopkins describe a pair of PC training programs they guided, indicating how these programs employed the principles just enunciated. These were community development training projects in the Peace Corps Training Center in Puerto Rico. Since both projects were conducted at the same Center at the same time, it is convenient to follow Harrison and Hopkins' lead and act henceforth as if only a single training project were involved. Six features of the training program were that (1) Trainees participated actively in the planning of their own training; (2) classroom lectures were de-emphasized in favor of small group activities and informal interactions of all kinds; (3) nothing except Spanish instruction four hours a day and weekly evaluation sessions was compulsory in the schedule; (4) most elements of the training curriculum were integrated rather than being taught in separate courses; (5) there was a strong focus on concrete activities, ranging from raising chickens to performing research studies; and (6) awareness of the training environment was developed by means of weekly small group "evaluation sessions" in which Trainees assessed what was happening in training and how they were reacting to it. It was hoped that the habit of evaluating events in training would carry over to events during service abroad.

Harrison and Hopkins emphasize that, despite the strong emphasis upon Trainee planning of training activities, very extensive preparation was made by the staff prior to arrival of the Trainees. In part this was necessary to ensure that different instructors were reasonably consistent in their goals and teaching methods. In part, too, there may have been development of specific activities during this planning period. Such development could be interpreted as inconsistent with the principle of Trainee participation in planning. However, we understand that in other projects Trainee planning has sometimes included having one or more instructional patterns for foreign language teaching presented to the group, with the request that Trainees accept or reject a proposed method. If not done to excess, this combination of pre-planning by instructors and choice by Trainees seems potentially to gain efficiency at minimal cost in terms of Trainee autonomy.

The only evaluation of the success of Harrison and Hopkins' training program is anecdotal, with those authors indicating that some Trainees worked much more effectively and happily in the new kind of program than others. Kerrick, Clark, and Rice's (1967) comparison of lecture and participation methods of health instruction, already described above, would suggest that the Harrison and Hopkins method may not necessarily have improved morale nor increased the amount of relevant learning. However, there is so great a difference between having one course run on a participation principle and having an entire program operated that way as to leave the evaluation question essentially unaswered. Further research on this particular matter is very much needed; for despite cogent arguments in favor of the new method, it is unwise to have gigantic differences in training procedure exist from project to project without attempts at assessing the effects of these differences.

In-country training (ICT). This method, a close cousin of transition training, was instituted in the summer of 1966. Since that time some groups of Peace Corps Trainees have had part or all of their training in the country where they would later serve as Volunteers. The arguments for in-country training are so strong that one needs to remind oneself of any considerations favoring its opposite. A saving of travel money can be made if deselection occurs during U.S. training rather than overseas training. Also, if largely theoretical training, as opposed to culture-centered training, has any place in the Peace Corps, facilities and staff for the former would appear more convenient to obtain in the United States.

Jones and Burns (1970) have evaluated Volunteer satisfaction with training provided in India, comparing heavy in-country training, light in-country training, and no in-country training. Heavy in-country training (ICT) consisted of 6-9 weeks of U.S. training followed by 4-6 weeks' training in India; light ICT consisted of 11 weeks of U.S. training followed by 2 weeks' training in India; and no in-country training consisted only of 14 weeks of training in the U.S. Total scores on groups of items from six areas (language training, area studies, job skills, medical training, adjustment to India, understanding PC goals) were obtained, and general satisfaction was defined as the total of all six group scores. Thus satisfaction with training in six fields plus general satisfaction could be compared for the different training conditions. In addition, because more than one training project used each method, differential satisfaction from project to project within methods could be assessed.

Before discussing specific findings, we mention that the usual problems of interpreting Peace Corps training studies appear here. Because Trainees were not randomly assigned to the different projects, significant project or ICT effects could be attributable to differences between Trainees prior to training. Because training sites were not assigned randomly, ICT effects could also be assigned to possible systematic differences in training sites. This latter hypothesis will be examined later since two projects from the Heavy ICT group and one from the Light ICT group received their U. S. training at the University of Kentucky, the first two also receiving their Indian training in the same place - Gangavathi, Mysore.

The six satisfaction scores in specific fields exhibited correlations of from .26 to .61 with each other and from .56 to .88 with general satisfaction. Analyses of variance showed, when redone (Jones & Burns, in press) to correct a degree of freedom value error, that the three ICT groups exhibited significantly different mean satisfaction on each measure except two: Area studies and adjustment to India. On every measure except area studies the highest mean satisfaction was exhibited in the Light ICT condition. The Heavy ICT group appeared to be distinctly inferior to the Light ICT group but slightly superior in mean satisfaction to the No ICT group, suggesting further work with light in-country training -- preferably with an experimental design which would permit random assignment of Trainees and project locations to the different groups but would assign more Trainees to the Light ICT condition in order to maximize satisfaction in training if present indications of ICT effects are correct.

When projects within ICT groups are compared, each satisfaction measure except language training showed significant mean differences. Now consider Projects 42 and 38, the two Heavy ICT projects which received U. S. training at the University of Kentucky and Indian training at Gangavathi: On two measures plus the general satisfaction measure, these two projects exhibited identical means. On one of the other four measures these two projects had means closer to each other than any of the other five possible pairings of two projects. This suggests that significant interproject differences in training satisfaction probably arise from different training sites or different kinds of training rather than successive training in the same site.

Comparison of Project 37 (Light ICT, University of Kentucky and Ranaghat Rice Farm) with Projects 42 and 38 (Heavy ICT) suggests that some of the ICT group effects discovered with analysis of variance are indeed due to different U.S. training sites. Project 37 showed higher mean satisfaction than Project 42 on four of seven measures and higher mean satisfaction than Project 38 on three measures, but the total score (general satisfaction) had the same mean for all three projects. This evidence is only suggestive, but it shows that the difference between Heavy and Light ICT mean satisfaction scores is minimally dependent upon those projects in the two groups which were trained at the same U. S. site. Further study of these training conditions is surely indicated.

The recent substantial involvement of the Peace Corps in In-country training is reflected by questionnaire data from Close of Service Conferences conducted in 1969 (R. Jones, 1970, p. 13 and p. 12 of Appendix E). Data analyzed for 2,310 Volunteers from 77 projects in 43 countries showed that 18% of respondents said they had received some, but less than two weeks of ICT, and 35% said they had received two or more weeks of ICT. Percentages of Volunteers in specific regions and assignments reporting at least some ICT ranged from 95 for agriculture Volunteers in North Africa-Near East-South Asia down to 36% for education Volunteers in Africa other than North Africa. Peace Corps projections for 1972 assigned only 8% of projects to U.S. sites alone, 32% to a combination of U.S. and ICT, and 60% to ICT alone (Peace Corps, Office of the Director, 1971, p. 28), a great reversal of practice before 1966. By Fiscal 1973 more than 85% of all Peace Corps Trainees were being trained in the immediate region of the country where they would serve if they completed training successfully (ACTION, 1973a, p. 6).

Training of Training Personnel

Dance, Frandsen, Knapp, and Larson (1966) have described and evaluated a pair of almost identical five-day seminars for two different groups of returned Peace Corps Volunteers (RPCVs, as they will be called hereafter) in preparation for their service as discussion leaders, or more precisely, as *discussion facilitators*, in future Peace Corps projects. These seminars emphasized the theory and practice of group discussion. The nature of the training may be partially inferred from the following outline of time allotments to different activities:

Small group discussions:	10 hr., 40 min.
Staff and telelecture presentations:	8 hr. 45 min.
Films:	3 hr.
Peace Corps Headquarters presentations:	9 hr., 30 min.
Reading and study time:	4 hr.

The telelectures consisted of authorities on group discussion techniques delivering lectures through their own telephone sets with the lecture being amplified for hearing by the whole training group many miles from the speaker of the day as a means of eliminating travel expense. Dance et al. found that three of six telelectures were rated by RPCVs significantly above the rating scale mid-point. ("Much" was the response given to the question, "How informative and thought-provoking were the telelectures?") However, a live lecture demonstration on techniques of small group discussion received substantially higher ratings in each seminar. Though several variables are left uncontrolled in this comparison, the seminar staff felt that these data plus written comments by RPCVs justify careful consideration of the advisability of using telelectures rather than personal appearances. The highest rating given to any feature of the training program was to a film called "Twelve Angry Men," starring Henry Fonda and describing the interaction of members of a trial jury.

Dance et al. found that seminar participants had a mean of about 14.35 correct items out of 34 on a test of knowledge about small group discussion processes and techniques at the beginning of each seminar and increased on a presumably parallel form to a mean of 16.57 or 17.69, depending on the seminar, at the end of the training period. This improvement was significant ($p < .01$) in each case. Both these measures correlated significantly ($r = .419$ and $.466$, respectively, $p < .05$) with the Haiman Open-Mindedness Scale scores, but only in the second seminar, not in the first. The pre- and post-seminar scores on the test of knowledge were correlated on the order of .45 ($p < .05$) in both seminars, but no other measures to be discussed below were correlated in the first seminar. In the second seminar the Haiman Scale also correlated significantly ($r = .644$, $p < .05$) with the Gough-Sanford Rigidity Scale. The Cassel-Stancik Leadership Ability Evaluation showed no significant correlation with any variable just mentioned. However, it was the only measure other than the test of knowledge to show change during training: In the second seminar a sub-group taking the test on Day 2 (administration of this test, the Haiman Scale, and the Gough-Sanford Scale being balanced over three days) had a mean of 9.13, compared to a mean of 11.58 for another sub-group on Day 3, and a mean of 11.00 for the final subgroup on Day 3. This yielded an F of 6.55 ($df = 2,38$, $p < .01$). A similar nonsignificant trend appeared in the first seminar. Most of these results parallel those of an earlier, very similar discussion leaders' training unit conducted and studied by Frandsen and Dance (1965).

Training Manuals

One popular form of training device in the Peace Corps has been a booklet containing case studies of PCV activity in a particular region or country. A series of such manuals prepared by the International Research Institute of the American Institutes for Research has a single narrator throughout each manual, with the story being interrupted frequently by a series of discussion questions about the immediately preceding incidents. No one Volunteer is presumed to have encountered all the situations described in a manual, but the experiences attributed to a narrator are presumed to be representative of Volunteer experience in the location being described. Manuals of this kind exist for rural community action in India, community development in Latin America, teaching in West Africa, teaching in Turkey, teaching in Thailand, and teaching in Ethiopia (International Research Institute, 1965a-c, and 1966 a-c, respectively). In addition, Bradford (undated) has prepared a manual for India-bound Volunteers which begins with an analysis of Indian bureaucracy (including an Indian short story, "Man, how the government of India run!") and closes with a series of case studies for discussion. Similarly, Castillo and Boriack (undated) combined a cultural analysis of Philippine society and advice for PCVs about problems they will face as outsiders with a series of case studies and thought-provoking questions about each case study. Frandsen and Dance (1965) have presented a series of case studies used in the training of returned Peace Corps Volunteers as discussion leaders for new Peace Corps training projects.

Lichtenstein, Clark, and Noe (1966) have described how the International Research Institute case study series was developed. Returning Volunteers from 53 projects in 35 countries were asked at their respective close-of-service conferences to describe in writing a situation in which the Volunteer was particularly successful in dealing with a Peace Corps job problem or with a problem involving host country nationals. Each Volunteer was also asked to describe a situation in which he was particularly unsuccessful in dealing with such a problem. A total of 2,750 such "critical incidents" were reported. These incidents were classified by situation, by geographical region, by frequency of mention, and by percentage of successful resolutions in each subclassification. A parallel classification substituted behavior category (the method the Volunteer used in trying to solve the problem) for situation.

Despite much variation in job assignment from region to region, the same situations tended to have high incidence in all regions. Overall, the four most frequent problems, in order, were "host methods inadequate," "lack of host cooperation," "resources required," and "classroom difficulties." There may be some overemphasis on host problems because 30% of the incidents were collected using a form emphasizing host national problems and 70% on a form emphasizing job problems, the latter conceivably including host national problems as perceived by some Volunteers. In the Near East and South Asia a lack of needed material resources was specially important. In the Far East, inadequacy of host methods was most emphasized. In Latin America, lack of host cooperation was the most frequent complaint, possibly because the community development emphasis in that region made this cooperation particularly vital. In Africa, classroom difficulties were the most frequent problem.

Sizeable rank-order correlations were observed between frequencies of different behavior categories of Volunteers trying to solve their problems in the four geographical regions. Seven of the 11 most frequently reported behaviors could be termed motivational, consisting of attempts to convince, interest, or persuade other people to do as the Volunteer wished. The first four ranking behaviors, ranked from most frequent on down, were "attempts to convince" (51%); "institutes new systems or procedures" (63%); "makes formal requests or complaints" (41%); and "acts with respect and tact" (81%). The parenthesized percentages represent the incidence of success with each technique. Acting with respect and tact is one example of an indirect method, which tended to be more successful than some direct methods, though we cannot be certain that this would be true with the situation held constant.

Given the data on critical incidents in a particular region, the person assigned to write a case study for a country in that region began to collect written material about that country and to interview about six returned Volunteers in order to obtain a realistic basis for writing the story. The critical incidents reported from that region formed part of the basis for the story. Lichtenstein, Clark, and Noe (1966) have indicated a number of guidelines developed for the case studies and have listed steps required for review, pretesting, and approval of each case study. In addition to the case studies listed earlier, a discussion leader's manual was developed to parallel each case study.

Part of the pretesting consisted of using specific case studies for discussion in actual Peace Corps training programs and obtaining questionnaire evaluations of each study from the Trainees involved. This led to substantial revision of at least one manual which received poor evaluations in training.

An analysis of the effects that discussing case studies had upon Trainees' attitudes was also made. Four concepts were evaluated for change using the semantic differential technique of Osgood, Suci, and Tannenbaum (1957) as a means of measuring attitude change over a 24-hour period between a pre-test before discussion of the case and a post-test following the final discussion of the case. These four concepts were labelled: "Local people," "Peace Corps Volunteer," "Counterparts," and "Myself." Lichtenstein et al. predicted, on the basis of previous social psychological research, that Trainees would tend to move their judgments toward the neutral point on each scale (Evaluative, Potency, or Activity) for each concept. Fifty of 60 comparisons reported did show this predicted trend and evidence for statistical significance of a general trend toward the neutral point was reported. Interpretation of this result must be cautious since some change apparently occurred between testings, but in the absence of a control group we cannot be certain that the attitudinal change resulted from discussion of the case study rather than the passage of time and the re-administration of the test.

Two documents are representative of training manuals emphasizing general information provided for Volunteers bound for certain countries. Goldensohn (undated) used a heavily referenced historical approach to the understanding of Gabon, known as French Equatorial Africa prior to gaining its independence. The final two chapters of that report focus upon modern Gabon and upon the work of Peace Corps Volunteers in Gabon. Lipez (undated) has presented a more anthropologically oriented guide for the Peace Corps teacher in Ethiopia. One manual (Hapgood & Wrobel, 1968) primarily raises questions for Peace Corps staff members charged with developing agricultural programs in Africa.

Many PC training guides have not been seen by this author. One such (Peace Corps, Office of Training Support, 1970) appears to have been influential in its emphasis upon experiential learning as opposed to lecture- and reading-based learning.

Psychological Differences Among Peace Corps Training Units

Stern, Cohen, and Redleaf (1966) have investigated whether differences in psychological climates existed in 63 different training units activated between August 1963 and October 1964. Stern and Steinhoff's Organizational Climate Index (OCI), a questionnaire serving much the same function as the well-known College Characteristics Index (CCI), developed by Pace and Stern (1958) but intended to be applicable in settings other than conventional college programs, was administered to all Trainees in these units about half way through training as a means of determining their perception of the Peace Corps training programs which they were undergoing. Data analyses were performed on random sub-samples of returns from each unit, with a total of 2,511 Trainees being represented in the total sub-sample.

The data analysis began with an intercorrelation of scores from the 30 10-item scales from Murray's taxonomy of needs (such as Affiliation, Exhibitionism, etc.) across all 2,511 respondents. This was followed by a factor analysis which yielded six factors: Group Life versus Isolation, Intellectual Climate, Personal Dignity, Achievement Standards, Orderliness, and Impulse Control. A factor analysis of factor scores for the individuals showed that the first four factors just named contributed primarily to a second order factor termed Development while the remaining two factors contributed to a second order factor called Control Environment. Then analyses of variance were performed for each first order factor, using the 2,511 individual factor scores and testing for mean differences among the 63 training programs. The six resulting Fs were each significant at the .01 level or better. Scheffé (1959) simultaneous confidence interval analyses also showed significant differences between certain groups of programs, arranged in order of mean scores, such that a group of high scoring units all significantly exceeded a group of units with moderate scores, and they in turn all significantly exceeded a group of low scoring units.

It was also possible to compare Peace Corps training programs with 23 colleges previously studied by determining factor scores for each individual in this study, based on a previous factor analysis of the CCI applied to the OCI since the same 30 scales existed in each index. The resulting average factor scores were then plotted on the same sort of profile charts previously used with the CCI. This showed that the total Peace Corps group was comparable to above average colleges in the norm group. The best Peace Corps programs are said to be like the best colleges (defined as having the highest Intellectual Climate scores), except that the curriculum is not quite as academic in the Peace Corps (Stern et al., 1966, p. 36). The poorest Peace Corps programs are nonetheless superior to the lowest group of colleges considered by Stern et al.

Returning to OCI factor profiles for each PC program after determining which programs are most like the best colleges, we find that there is a tendency for those programs to be rated high on the four first order factors contributing to the Development second order factor, and to be rated low on the two first order factors contributing to the Control Environment factor. These comparisons are difficult to follow because the colleges are compared on 11 CCI factors (see p. 5 and p. 8, for example) whereas the training programs are sometimes compared on 11 CCI factors (see p. 37) and sometimes on 6 OCI factors (see p. 40).

Stern et al. point to certain PC programs as superior and others as inferior on the basis of their OCI factor averages. However, they have not attempted to determine whether there is sufficient consistency in these averages among different programs in the same institution to attribute the differences to the institutions rather than to idiosyncrasies of the individual programs. The present author has employed the data of Appendix VI of the Stern et al. monograph to provide a preliminary answer to this question. Eleven universities or colleges proved to have OCI factor scores available from two or more different programs, with a total of 27 programs being represented. For each of the six factors a separate analysis of variance of mean scores per program was performed, with the traditional between-groups sum of squares being associated with differences among the 11 institutions. A twelfth institution, Columbia University, was excluded because it was the only one in which two different branches (Teachers College and the School of Social Work) were specifically mentioned as being separately assigned different programs. Only nine institutions were analyzed for the Achievement Standards factor because of missing data.

Table 5-4 summarizes the six analyses of variance and also presents intraclass correlations calculated from the analysis of variance information by the methods given in Haggard (1958, p. 14). Three of the six factors (Personal Dignity, Achievement Standards, and Orderliness) exhibited significant

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Insert Table 5-4 about here

Table 5-4

Analyses of Variance and Intra-Class Correlation Coefficients (r_I) Based on Peace Corps Training Institution Differences on Organizational Climate Index Factors (Calculated from data in Appendix VI of Stern, Cohen, and Redleaf, 1966).

Factor	MS_{bg}	MS_{wg}	F	r_I
Group Life	5.69	7.11	.80	-.090
Intellectual Climate	30.57	18.05	1.69	+.223
Personal Dignity	29.82	5.56	5.36*	+.643
Achievement Standards	6.96	2.54	2.74*	+.409
Orderliness	16.34	5.91	2.76*	+.422
Impulse Control	9.59	4.33	2.21	+.334

* $p < .05$; df = 10,16 except with Achievement Standards, where df = 8,14.

differences among institutions. Intraclass correlations ranged from -.090 for Group Life to +.643 for Personal Dignity.

Stern et al. found a significant negative relation between size of program and average score on the Orderliness factor. However, they doubt that this finding, based upon an analysis of variance of Orderliness scores for (apparently) three groupings of program size, 0-49, 50-99, and greater than 100 (see their Table 7), has substance to it, perhaps because they have no intuitive explanation for it. Stern et al. suggest that extreme scores from a single program with 130 Trainees may be responsible. Possibly a test for a statistical outlier (Anscombe & Tukey, 1963; David, 1970, Ch. 8) would be helpful here.

Two OCI factors proved to be somewhat related to rated training performance in the Stern et al. (1966, Table 6) report: An analysis of variance of Intellectual Climate for four groups of training units, differentiated on the basis of the percentage of attrition during training, was significant ($p < .05$) with the group having the highest attrition rate showing the lowest scores on the dependent variable, and thus the poorest Intellectual Climate. Also a significant correlation of unstated size is reported between average Final Selection Board Ratings per program and the factor of Achievement Standards (Stern et al., 1966, p. 47).

Stern et al. (1966, p. 49) also give indications that OCI factors may be used to predict overseas performance ratings. As might be expected from the above, Intellectual Climate was positively related to overseas effectiveness. Surprisingly, Orderliness was also.

Stern, Richman, and Ashley (1967) have extended the foregoing study by obtaining OCI data for 19 PC training programs held in 1966 and 10 held in in 1967. Their Figures 4 and 12 show that mean scores for each of the six main OCI factors were lower in 1966 and 1967 than in the previous study, with greatest declines in Intellectual Climate and Orderliness. Though Stern, Richman, and Ashley (1967, p. 49) do not completely equate these scores to program quality, they do believe them to indicate that training programs dropped in quality from 1963-64 to 1966 and 1967.

In contrast to the Activities Index (AI) data from these two studies, reported in Chapter 3, the OCI measures are intended to tell us something about the institutions or programs studied, as distinguished from the students per se. Thus, the term Organizational Climate Index connotes the intent of the test makers. We must note, however, that two problems of interpretation arise, one from the source of information and one from the types of questions asked. In contrast to the CCI, for which faculty respondents as well as student respondents have often been used, the OCI data obtained for Peace Corps training programs have wholly originated with Trainee responses. In one sense it is perfectly appropriate that organizational climate should be assessed on the basis of Trainee perceptions of it. However, we must realize that any shifts in Trainee characteristics from year to year or from project to project may cause shifts in means on OCI factors. Possibly relative size of differences among training programs with respect to OCI scores, as compared to differences with respect to AI scores will indicate the degree to which OCI scores reflect institutional properties. Significant differences between training programs appeared on all six OCI factors, and 11 of the 12 AI factors showed significantly different mean factor scores for persons in the different training programs (Stern et al., 1966, Table 8). The similarity of these two results suggests that OCI scores may indeed reflect personality differences. It would seem useful to correlate AI and OCI factor scores across individuals and also across groups. Canonical correlation and/or the Campbell and Fiske (1959) multitrait-multimethod matrix analysis might help to settle this question. Inspection of AI profiles for pairs of training programs which were extreme in OCI factors in the two studies (Stern et al., 1966, Appendix IX, Stern et al., 1967, pp. 29-30 and 40-41) shows that in five out of six comparisons (three years times two sexes) the program which was superior on OCI scores showed a higher mean on Intellectual Interests by at least a score difference of 1.0. This is not an unusual enough result to be called significant (the probability is 7/64 or .109 that random choice of a superior group in six pairings would leave what we might call Group A superior in 5 of 6 or 6 of 6 cases; this is even using a one-sided hypothesis test since we predict from OCI data). However, in view of the fact that we are not given a definite criterion for OCI score quality, we do not know what other AI factors should also be differentiated on the extreme OCI groups. We can at least take these data for Intellectual Interests as a suggestion that full correlational comparison of OCI and AI scores is warranted.

The second problem, bearing on the first, is Stern, Richman, and Ashley's (1967, p. 46) observation that at least on the Science scale of the OCI, a component of the Intellectual Climate factor, two training programs which differ greatly in Intellectual Climate show their greatest response differences for items such as, "Few people here would be interested in attending a lecture by an outstanding scientist," items characterizing the Trainees as well as local personnel; and their smallest response differences for items such as, "The administration is research conscious," an item characterizing the institution. It is certainly true that an institutional climate includes, perhaps decisively, the characteristics of its students. Yet it would seem desirable to have a scale available which restricts itself to characteristics of the administration, staff, and operating procedures of an institution so that one could differentiate between contributions to organizational climate brought by students and those which are only indirectly functions of the student body.

Interrelationships of Peace Corps Selection, Training, and Overseas Performance

Training and selection procedures as symbols of Peace Corps philosophy. Here we rely upon an impressionistic report from the Office of Evaluation of the Peace Corps (D. Jones, 1968) based on visitation of 32 out of 63 active PC training sites during the summer of 1968. The following quotation from that report gives its philosophy:

> In the view of this report, [any PC training project] ought to be based on the belief that, for the Trainee, training represents the Peace Corps world, and that he will impute to the Peace Corps in general the values and attitudes he observes in training. Therefore, training must create for the Trainee an environment as like as possible to the one he should face as a Volunteer -- not a physical environment, but a conceptual one.

Deborah Jones is implying that the Trainee cannot believe in the Peace Corps as a flexible, "human" organization if he does not find its training program flexible and human. It is possible for Trainees to find the training program a poor reflection of the Peace Corps values he expects to be manifested and yet for the period of service abroad to be in a behavioral environment consistent with those values. But some Trainees might resign from the Corps if the training program is not congruent with the value system supposedly motivating Peace Corps service. Too, other Trainees may become less flexible and human overseas because they have not found the administration of the Peace Corps to practice the behaviors it supposedly asks of Volunteers.

Integration of PC training and assessment. Peace Corps training has contained a substantial element of anxiety because so large a proportion of Trainees either withdraw from the Corps or are de-selected. As long as a high standard of learning and of personal qualities is maintained, anxiety may be an element in training. However, the Peace Corps Office of Selection has increasingly felt that assessment proceeded too independently of training, with assessment officers being psychiatrically or psychologically oriented to a degree which left de-selected Trainees with a feeling of personal pathology. Since assessment personnel seldom took an active role in the training program per se, they were viewed more as power figures than as resource persons.

Because of considerations such as the above, most training programs in the summer of 1968 moved toward a self-assessment approach in which the Trainee himself took major (but not complete) responsibility for deciding whether he was to be accepted for service as a Volunteer. Graham (1969) emphasizes that with this approach both staff and Trainee must know what the training program is expected to accomplish and how Trainees will be evaluated. Trainees must receive specific and continuous reporting of their individual performance in all aspects of training, and all staff members must participate in this reporting. In addition, Graham emphasizes the obligation of each Trainee to evaluate himself. D. Jones (1968) has described a training program for agricultural and land settlement work in Kenya which integrated training and assessment effectively while placing prime responsibility for assessment upon individual Trainees. The training program used small groups as the focus for cross-cultural studies, assessment, technical, and area studies. Assessment officers, Kenyan staff members, and other staff members worked closely with each other and with Trainees to prepare them for overseas work and to teach them how to evaluate themselves with the help of feedback from staff members and other Trainees. Jones emphasizes that the staff must not shirk the responsibility of providing both positive and negative feedback to Trainees as warranted. This is not a self-selection program in which the Trainee is solely responsible for selection decisions, but rather a cooperative method in which a Trainee can improve his performance if he learns of deficiencies. The failure of the staff and other Trainees to provide information and constructive criticism prevents the Trainee from improving and making an informed assessment of his own suitability for appointment as a Volunteer following the training period.

Graham (1969) has studied how Trainees perceived the degree of integration of selection into the total training package in training programs conducted in the summer and fall of 1968. The data reported were nonrandom, consisting of questionnaire responses of 834 Trainees, or approximately 25% of those to whom questionnaires were sent. The degree of integration of selection and training was related to other characteristics on graphs showing for example, mean overall rating of the training program. This overall mean was conditional upon different ratings on the integration measure. These graphs generally showed concomitant increases on the two measures plotted, but certain measures showed little or no increase. Thus, mean overall rating of the training program showed only one significant increase (from "well enough" to "quite well" on integration of selection into training) out of four shifts along the integration continuum. There seemed to be a direct correlation between positive ratings by Trainees on the integration of training and selection and positive feelings about the future success of their group. Those Trainees who gave high ratings on the integration measure felt that their group would be successful overseas and felt that those members of the group with the greatest potential had chosen and had been chosen to go overseas. Each of the latter two trends showed three out of four adjacent points on the regression curve to be significantly different with respect to the success measure in question. For Trainees who perceived a high degree of integration of the selection and training process, there was a correlated increase in perceived validity of the judgment of the Field Selection Officer and of the Field Assessment Officer, but not of the instructors' judgments or of fellow Trainees' judgments. Both the latter judgments had high average values, so that greater perceived integration served to bring confidence in the FSO and FAO up to the level of the persons with whom Trainees probably had the most contact during training. Trends with degree of understanding of the selection process plotted as the reference variable were usually similar to those using degree of integration of selection into the total training program as the reference variable.

It would have been useful to report linear and nonlinear correlation coefficients or similar measures for each graph. Furthermore, it is difficult to know whether any of the trends reported reflect causal relationships between reference variables and other variables. The most defensible position to take scientifically is that causality may be involved in certain cases but has not been demonstrated. One particular question for which Graham hypothesized a favorable answer was, "Will giving Trainees a more integrated program of assessment and training reduce anxiety about assessment and selection?" Essentially no trend was found on this point, except for a significant *increase* in anxiety with movement from a quite well integrated to an extremely well integrated program. For this answer to be a causally meaningful one, the investigator should have compared training programs with different degrees of integration pre-arranged and randomly assigned to projects in order to permit statistical evaluation of an experimental effect upon anxiety. We noted in Chapter 2 that this trend toward de-emphasis of formal selection procedures culminated with the abolition of Selection Boards in 1970.

Matching training to work requirements. D. Jones (1968) emphasizes the possibility of conflict between proponents of technical and attitudinal training of Volunteers. She seems to feel that the latter is usually given too little attention. She particularly favors the sort of cross-cultural training which, in teaching Trainees about superior aspects of host cultures, prevents future Volunteers from assuming that they or their country are carrying the "white man's burden" of transmitting a high culture to members of a lower culture. Jones favors Peace Corps projects which reflect trust in the judgment of host country nationals. She decries such training projects as one in which an important female official of the Ministry of Education in the host country was available at the training site but was not asked to be a member of the mid-training selection board. If Volunteers are to show respect for individuals or institutions of the host country, they must see the Peace Corps show similar respect.

D. Jones considers an agricultural training program at Fresno State College, preparing future Volunteers for service in Iran, to have balanced technical and attitudinal training effectively. The agricultural training included the planting and supervision of crops similar to those which would be found in Iran. Language classes focused upon agricultural terminology, permitting communication in the new language in the fields. Cross-cultural discussions were led by returned Volunteers who emphasized the relation of cultural similarities and differences to the task to be performed overseas. Host country nationals participated in role-playing with the Trainees as a means of helping them to develop appropriate attitudes about their overseas work and to recognize their own cultural biases. This program was heavily oriented toward experience in D. Jones' continuum of training emphases ranging from complete dependence on experiential learning to complete dependence on what she calls rote learning, which appears to be equivalent for her to dry and bookish learning. Jones' concern for the matching of training and future tasks is somewhat reminiscent of an approach to problems of selecting Peace Corps Trainees by the "method of rationales" described by Krug (1962b) in connection with the development of the Biographical Data Blank, mentioned in Chapter 2. Jones reports that Trainees in 11 programs studied in summer 1968 emphasized passivity rather than active learning -- presenting area studies instruction by dry lectures, much to Jones' distress. (It would be interesting to know how Trainees rated these lectures; for Kerrick, Clark and Rice, 1967, found, if any difference, a preference for lectures rather than participatory learning in health training. Note that the Kerrick et al. participatory condition applied to only one course and was not a radical departure from tradition.) Similarly, Trainees in nine programs had very limited contact with persons from other cultures than their own, and Trainees in six programs intended to produce community involvement apparently did little more than observe.

A final point made by D. Jones is that Trainees who are to take initiative overseas should learn to take initiative in training by participating in planning of their instruction. We have already indicated that such initiative has been put into practice by Harrison and Hopkins (1967) and other Peace Corps training personnel.

Summary of Findings on the Training of Volunteers

1. Foreign language instruction in the Peace Corps has been extensively studied. About 200 hours of classroom instruction appears necessary to bring the average Trainee to level S-1+ (one-and-a-half steps from the bottom of a 0-to-5-point scale of speaking ability) on the Foreign Service Institute's (FSI) face-to-face language test, for Spanish training at least. Some unsupervised language study and consequent improvement in foreign language competence typically occurs during PC service abroad.

2. Hyper-intensive language training (HILT), concentrating most foreign language instruction into a few weeks in which no other subject matter is taught, appears to facilitate learning of European languages, but to retard learning of exotic languages, compared to traditional training with about one-sixth less instructional time in the new language.

3. Language performance level at the end of training is an increasing function of Modern Language Aptitude Test (MLAT), of previous attainments in the language, and of total amount of instruction time. MLAT scores are less successful in predicting performance on exotic languages than on European languages. The multiple correlation (*R*) for predicting Spanish speaking attainments during Peace Corps training was .71 or .46, depending on whether or not non-zero placement test scores would be obtained as a predictor because of prior Spanish instruction.

4. Rated foreign language proficiency is moderately correlated ($\underline{r}$ = .42) with Overall Evaluation overseas when both ratings are made by Peace Corps staff personnel. However, this may reflect a "halo effect" since foreign language ratings by Foreign Service personnel correlated only .11 with Overall Evaluation.

5. In addition to foreign language instruction, Peace Corps training has typically included some or all of the following elements: Technical studies (including appropriate vocational training and possibly communications methods or linguistics), area studies, American studies, world affairs, communism, physical education, recreation, health, and Peace Corps orientation. Peace Corps training has increasingly employed methods and settings intended to facilitate overseas work directly rather than by providing bookish instruction with less immediate applicability. Accordingly, the amount of foreign language instruction has increased from about 100 hours to about 300 hours in a 12 to 14 week training program. Returned Volunteers have been widely used as instructors; part or all of a training program has frequently been conducted overseas or in rustic U. S. facilities, and persons from host countries have frequently served as Peace Corps instructors.

6. Health training of future Peace Corps teachers in Ethiopia was unsuccessful in developing a willingness to engage in community health service. However, four personal health practices increased in reported likelihood during training, with two (Wearing Clean Clothes and Wearing Shoes Outside) maintaining high probabilities during overseas service.

7. Several training manuals have been developed by collecting reports of "critical incidents" -- especially successful or unsuccessful events during Peace Corps service, classifying these incidents in sensible categories, and making booklets reporting representative incidents of each kind. A booklet

concerning a particular country is then used (often in discussion or role-playing groups) in preparing Trainees for service there.

8. Substantial differences among different Peace Corps training programs appear in the Organizational Climate Index (OCI) responses of Trainees. The programs most like superior colleges in these responses may be characterized as emphasizing student development and de-emphasizing maintenance of orderliness and control over the educational environment. Three OCI factors (Achievement Standards, Orderliness, and Personal Dignity) differ significantly from institution to institution in addition to differing from program to program, regardless of the institution involved.

9. Peace Corps selection pressures during training have appeared to produce great anxiety among some Trainees. Recently there have been attempts to integrate selection and training more effectively and to transfer much responsibility for choosing whether or not to continue in the Peace Corps to the Trainee himself. This requires frequent and honest feedback to Trainees concerning their performance during training. Apparently self-reported anxiety is not reduced by this procedure, however.

Chapter 6

Duties, Accomplishments, and Work Techniques of Peace Corps Volunteers

The three best introductions to specific work activities of Peace Corps Volunteers may be Carey's (1970) book, *The Peace Corps*, Textor's (1966) book, *Cultural Frontiers of the Peace Corps*, and a hard-hitting article by McLaughlin (1966) analyzing the strengths and deficiencies of the first few Peace Corps contingents sent to Guatemala. The reader interested in getting a subjective feeling for the experience of Volunteers and overseas administrators is strongly urged to examine these three sources at length. Because of their ready accessibility in libraries and because they have less quantitative information than other sources, they receive much less attention in the present volume than they would merit otherwise.

Types of Assignments

Partly because of salary (11 ¢ per hour according to Colmen, 1965) and family considerations (Volunteer couples may serve but no more than 4% of Volunteers may have children under the age of 18) established by law and/or Peace Corps Headquarters operational policy, the Peace Corps consists primarily of young unmarried people, with 82.1% of all Trainees and Volunteers in 1965 being between the ages of 21 and 25 and 85.8% being single (Colmen, 1966). In 1971, after a 1969 decision by the Peace Corps (described in Chapter 3) to increase the number of older, married, and technically trained or experienced Volunteers, (Peace Corps, Office of Staff Placement, 1971), 77.5% were single.

By 1973 the percentage of single Volunteers or Trainees had dropped to 75% (ACTION, 1973c, p.17), and the percentage from 21 to 25 years of age had dropped to 64.6% (ACTION, 1973b, p. 42). The proportion of Volunteers or Trainees with at least one 4-year college degree remained high - 84.6% in 1973 (ACTION, 1973c, p. 21). In accordance with the policy changes just mentioned, the number of Volunteers placed overseas who were over 50 years of age increased from 11 in 1969 to 203 in 1971 (Committee on Appropriations, House, 1972, p. 946) to 246 (Volunteers only) in 1973 (ACTION, 1973b, p. 42). The number of Volunteer families (Volunteer couples with one or more dependent children under 18 years of age) was 254 in 1972 (Committee on Appropriations, House, 1972, p. 965) and approximately 300 in early 1973 (Committee on Foreign Affairs, 1973, p. 16); shortly a further policy decision was announced to save money by limiting appointments as Volunteers to those candidates with two or fewer children (Committee on Appropriations, House, 1973, p. 383). At the end of 1973 the number of Volunteer families was 157, with 324 Volunteer dependents (ACTION, 1973c, p.17).

Given the original composition of the Corps, it is inevitable that job assignments have tended to be those which young, well educated but technically untrained and vocationally inexperienced persons could hold with relatively brief training or that training would have to be extensive.

We have seen that the training period tends to be on the order of 12 to 14 weeks, leading to the conclusion that Volunteers have gone to the field as generalists rather than specialists, for the most part. Carter (1966) has asserted that generalist programs overseas have been more successful than programs staffed by technically skilled Volunteers on the grounds that the generalist is "(1) well educated (2) more responsive to training, (3) more analytical, and (4) more flexible." He cites the example of a Tanzania project for shich surveyors and engineers were provided but which was hampered by inadequate Tanzanian funds for construction work. It should be noted, however, that when Tanzania abandoned use of U. S. Peace Corps Volunteers, speculation about causes for the decision focused on the possibility that too few skilled technicians had been provided (Anonymous, 1969). The Tanzanian Government has not stated any official reason for this decision (Committee on Appropriations, House, 1973, p. 485). However, Pakistan's withdrawal from Peace Corps participation has been officially attributed to the low level of technical skills possessed by our Volunteers (Committee on Appropriations, House, 1971, p. 734). In view of this problem and of the Peace Corps' 1969 decision to provide more technically proficient Volunteers to host countries, we now turn to the question of the degree of recent change in the skills and work assignments of Volunteers.

As Figure 6-1 shows, 73.1% of Volunteers were assigned teaching or quasi-teaching duties in 1961. This percentage declined somewhat irregularly to 45.1% in 1971. The graphed decline for 1972 was a predicted one, not an observed one. In Fiscal Year 1972 46% of Volunteers were given educational duties (ACTION, 1972, p. 5), and in FY 1973 48.4% were so assigned (ACTION, 1973a, p. 7). These Volunteers may have been completely in charge of regular school classes, teaching English as a foreign language (TEFL), serving as educational aids or co-teachers with host national teachers, or serving in an educational television project sponsored by the Peace Corps. The Peace Corps administration has reported that a shift has been occurring in educational assignments" from general classroom teaching, at the primary and secondary levels, to teaching more specialized

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Insert Figure 6-1 about here

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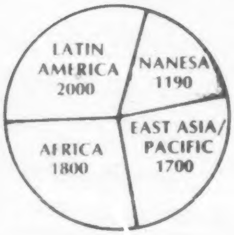
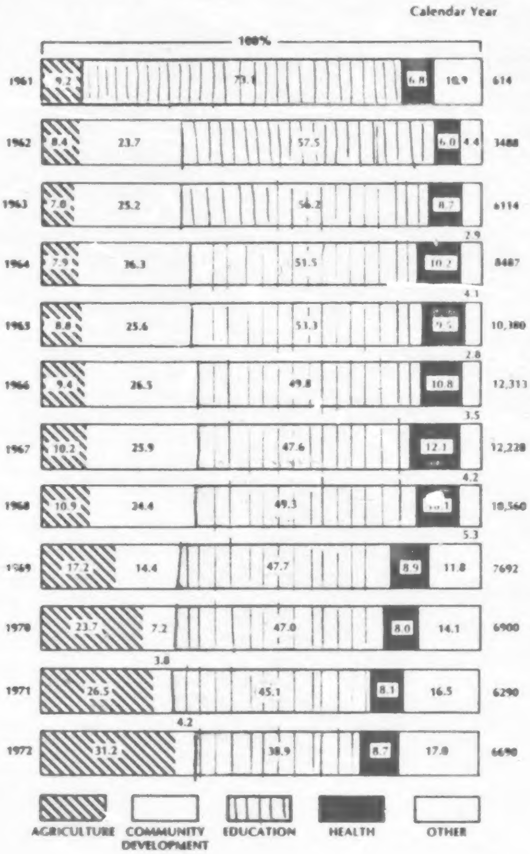
PEACE CORPS STATISTICS

The work of the Peace Corps will never be told in statistics alone. But the numbers do provide a basic index of the scope of its operations. By December 1970—early in the 10th full year of Peace Corps history—more than forty-six thousand Volunteers had gone overseas. Here is a breakdown of Volunteers by region of service and by type of program.



WHERE THEY ARE HEADED is depicted in the chart above which projects the number of Volunteers overseas as of December 31, 1972. Latin America continues to absorb the most Volunteers. A more detailed representation of Peace Corps work in the four major regions is contained on the following pages.



WHAT VOLUNTEERS ARE DOING by type of program is charted at right. The number of Volunteers working in Education has declined in recent years, while emphasis in Agriculture has increased.

Fig. 6-1. Trends in number of Volunteers per year and type of assignment. (1972 figures were poor estimates; see text for corrections).(From pg. 246, Committee on Appropriations, U.S. Senate, 1971).

subjects such as modern math and science, or to curriculum and materials development...(or to) vocational education and teacher training..." (Committee on Foreign Affairs, 1973, p. 5; see also Committee on Appropriations, House, 1971, p. 821). The principal teaching assignment reported for 1972 was still the teaching of English (1,464 Volunteers), with 728 Volunteers teaching mathematics and science, 299 Volunteers working in technical education, 315 working in teacher training, 110 as university teachers, and 201 in miscellaneous areas ranging from home economics to physical education (Committee on Appropriations, House, 1973, p. 449). How much a change from general classroom teaching has occurred recently is not obvious. It is clear, however, that recruitment of recent college graduates, either with or without teaching credentials for Peace Corps teaching assignments, is much easier than recruiting qualified Volunteers for some other vocations; accordingly the anticipated reduction in proportion of teachers for 1962 (Fig. 6-1) was unrealistic; a staff survey team from the House Committee on Foreign Affairs (Committee on Foreign Affairs, 1973) makes it plain that the teaching of English by Volunteers, a job which that committee calls one for A.B. generalists rather than specialists (though the Peace Corps seems to classify as a specialist any credentialed teacher so assigned) remains a viable assignment in any country requesting such services. Figure 6-1 shows a steady increase in the percentage of Volunteers assigned to agriculture from a low point of 7.0% in 1963 to a high of 26.5% in 1971. Later data show only 25% of Volunteers assigned to a new category of agriculture and rural development in Fiscal 1972 (ACTION, 1972, p. 5) and 22.3% in Fiscal 1973 (Action, 1973a, p. 7) but indicate an improvement in quality of such personnel's skills. The Peace Corps reported in 1973 that it was currently recruiting nearly 10% of all new college graduates with agriculture degrees.

Even so, only half (11% of the total of all Volunteers) of the Volunteers and Trainees assigned in agriculture in approximately 1972-73 had either an agriculture B.S., M.S., or Ph.D., or a significant agricultural work background. In view of a reported 6% of Volunteers and Trainees with such strength five years earlier, this represents a substantial improvement in recruiting of agricultural personnel for the Peace Corps (Committee on Foreign Relations, 1973, p. 46). Volunteers without such background who are assigned to agriculture projects typically receive additional training in that field (5 weeks in one case, Committee on Foreign Affairs, 1973b, p. 18) before beginning actual work in the field (ACTION, 1973a, p. 21). Though the 1973 ACTION Annual Report just cited was enthusiastic about this method, a recent survey team evaluating the Peace Corps was not so sanguine, criticizing attempts to use minimally qualified Volunteers for agricultural work (Committee on Foreign Affairs, 1973b, pp. 4-5, 10, & 18).

A comparison of 1969 and 1972 Volunteers (Committee on Appropriations, House, 1972, p. 970) shows that in the former year only 82 Volunteers with agricultural degrees and 427 Volunteers experienced in agriculture were placed overseas, compared to 174 and 690, respectively, in the latter year.

Figure 6-1 shows a 6% to 12.1% range in assignment of Volunteers to health jobs; more recent data yield 11% for Fiscal 1972 and 8.8% for Fiscal 1973 (ACTION, 1972, p. 5; 1973a, p. 7). Corresponding data for two new categories, urban development and public works (8% in 1972 and 12.7% in 1973) and business and professional management (5% in 1972 and 3.3% in 1973) probably represent most of the Volunteers who would have been classified as working in community development had the categorizations in Fig. 6-1 been continued. Presumably some of the rural development

Volunteers of the present agriculture and rural development category also would have been called community developers.

Recruiting of blue-collar workers as Peace Corps Volunteers has been difficult historically. However, a marked change occurred from 1969, when 81 skilled workers were placed as Volunteers, to 1972, when 377 skilled workers were placed (Committee on Appropriations, House, 1972, p. 970).

The "other"category (jobs such as PCV secretary) of Fig. 6-1 contained from 2.8% in 1966 to 16.5% of Volunteers in 1971, with later data showing 5% in 1972 and 4.5% in 1973 (ACTION, 1972, p.5; 1973a, p. 7) The June 30, 1973, ACTION Bi-annual Statistical Summary (ACTION, 1973b, pp. 68-69) listed 65 different specialties to which Volunteers were currently assigned.

An overall guide to changes in occupational skills of Volunteers and Trainees may be found in a table covering 1962 to 1972 (Committee on Appropriations, House, 1973, p. 481) or 1973 (ACTION, 1973c, p. 13) and classifying personnel as adept in certain general areas of work. The peak percentages for agriculture were 11% in 1962, 1971, and 1972, and 12% in 1973, with a minimum of 2% in 1967. As many as 6% (1973) and as few as 1% (1967, 1968, and 1969) were from skilled trades. From 12% (1967) to 21% (1972) came from professional areas. From 14% (1962) to 33% (1965) were in education, and from 34% (1972 and 1973) to 61% (1964) were generalists. An annual decline (or no change) in the percentage of generalists since 1967 (not 1969 when policy changed) is the best available evidence of increased recruitment of specialists in recent years. Note that these data are inconsistent with Joseph Blatchford's report (Committee on Appropriations, House, 1971, p. 724) of a decline in generalist Volunteers in the field from 70% to 29% in 1971. The 29% figure was asserted to reflect improved recruiting and a

3 month training program to convert generalists into low level specialists. However, we have already noted criticism of such training; we also note that the Peace Corps did not report this 29% value in later tables.

Community development is a novel enough concept to some readers to merit clarification here. K. Jones (1966) is a tertiary source for Carl Taylor's statement that community development is the method by which the people who live in local villages or communities become involved in helping to improve their own economic and social conditions and thereby become effective working groups in national programs of national development. The term 'community development programs' is used to describe only those administrative plans and operational procedures which implement community objectives. More important is the fact that once self-help activities are initiated the self-help group tends to perpetuate itself by seeking out and doing additional worthwhile improvement undertakings. Unless and until such self-perpetuating groups are developed, communities as such have not developed, communities as such have not developed no matter how many things have been done for them.

The regional assignment of Volunteers shifts somewhat from year to year. Fiscal Year 1973 data show 2,483 Volunteers and Trainees assigned to the Africa region, 2,672 to the NANEAP region (North Africa, Near East, Asia, and the Pacific), and 2,199 to the Latin American region, with Volunteers serving in 61 different countries (ACTION, 1973a, pp. 9-23; 1973c, p. 17). We will see evidence shortly that work assignment is partially a function of region.

Digression on Absolute Levels of Performance

In that part of this report devoted to research on selection, it proved useful to pay primary attention to differential measures of performance in the Peace Corps, i.e., to the relative performance of different, individual Trainees or Volunteers. Now that we are considering the nature of Peace Corps work and its consequences, we shift our emphasis to the consideration of actual overseas accomplishment. Measures of this kind have occasionally been obtained for individual Corpsmen; more frequently they have reflected the work of an entire project.

Flanagan (1951, pp. 742-745; 1962, pp. 3/96-3/113) has argued persuasively in favor of absolute measures of educational achievement which he calls "benchmarks" by analogy with surveyors' benchmarks used to give precise definitions of geographical position. The measurement of changes in social structure accompanying the Volunteer's service (mentioned as a criterion of overseas performance) is one such benchmark. Haigh (1963) favors "people-centered" rather than "project-centered" goals for the Peace Corps, de-emphasizing the building of swimming pools or roads, for example, because these may be projects of the PCV rather than of the host nationals and thus be temporary in both a physical and a psychological sense. This view is related to that of Taylor two paragraphs above. Another way of putting this point is as follows:

Where school children are insulted by their teachers and told that their own language is an ugly animal dialect, it is idle to build a school so that 20 more of those children can go through that experience and assume we've done Peace Corps work. That would simply be contributing to the preservation of a system that cannot last and must not last. That's why CD (Community Development) is essentially a revolutionary process, consisting of helping these outsiders (disadvantaged persons) to get in. Our job is to give them an awareness of where the tools are to assert their political power. (Mankiewicz, 1964, p. 6). (Parenthesized items inserted by present author).

From a validation point of view, we comment that this argument is plausible but should be strengthened or weakened by factual evidence as to the unsatisfactory nature of project-centered efforts and by demonstration that people-centered efforts have the intended effects upon the host nationals contacted by PCVs. The people-centered goals must thus be specific enough to permit measuring the level of attainment of them resulting from Peace Corps activity. It must be said here that Mankiewicz's emphasis on community organization as a means of developing political power and thus of improving the economic status of a group is the emphasis which was removed from the Peace Corps when the term community development was dropped from the lexicon of major Volunteer assignments. Recent project-oriented activities such as organization of credit unions, Farmers' Associations (like U.S. cooperatives), designing of buildings and making of town plans, work on rural electrification projects, and work in developing small businessess (ACTION, 1973a; Committee on Foreign Affairs, 1973b) could have been performed under the old community development rubric as well as under current Peace Corps programming. The research on community development described below was all conducted before the Peace Corps changed its policy in this area. However, most of it is helpful in understanding current Volunteer activities.

Another handle upon the problem of absolute standards of effectiveness comes from the numerical values of the effectiveness ratings and similar measures. Smith (1965a) reports a mean of 10.2 and standard deviation of 2.6 on overall effectiveness measured by summing three ratings at the end of one year of duty, each ranging from (1) - low to (5) - high. A neutral score, then, would have been 9.0, so the ratings average slightly above the theoretical midpoint. After two years of service, the ratings which Smith reports, based on one Peace Corps representative's judgment of each of his supervisees, are again slightly better than neutral point. The mean was 2.6 on a five point scale with the numerical meanings reversed from the previous scale. Data on skewness is not reported by Smith, but Lichtenstein and Spector (1964) report that a request to regional representatives in Nigeria to identify their outstandingly good and poor Volunteers yielded four times as many "good" names as "poor" names except for one regional representative.

All told, 38 poor Volunteers and 73 good Volunteers were identified. This suggests some skewness in rating at least,and perhaps in performance as well. The general literature on rating behavior indicates, however, that raters typically give skewings in this direction (Anastasi, 1964).

Similar skewing was observed by Allard (1966d) in a study based on 3,641 PCVs from a wide variety of projects: 12% were rated "superb" (a score of 1) in Overall Evaluation after 9 months overseas, 30% were rated as "very good" (2), 33% as "good" (3), 16% as "adequate but in need of supervision" (4), 6% as "doubtful" (5), and 3% as "clearly at the bottom of the group" (6). The mean of these ratings was 2.83, contrasting with a mean of 3.5 if favorable and unfavorable ratings were equally frequent.

The popularity of correlational techniques is such that few distribution functions or means of ratings of the kind just discussed exist in the Peace Corps literature. This is surprising in view of some discussion of improved quality of PCVs in the years following its establishment. This judgment seems largely based upon educational attainments of the applicants accepted and upon emphasis on matching skills with job assignments. There seems to be little evidence as to whether rated performance is changing from year to year (Anonymous, 1964). Smith (1964a, p. 101) reported that substantially fewer members of the Ghana II project than of the Ghana I project had previous teaching experience. Since Jones (1969b) found no relation between teaching experience or the absence thereof and Overall Evaluation, this probably is not an indication of a quality change between the two projects.

One document (Peace Corps, Research Division, 1968b) surveys most kinds of Volunteer activity, giving concrete examples of attainment in many countries served by the Peace Corps. For example, a School Partnership Program is described as having led to the construction of 251 schools and the beginning of 337 other schools in 40 countries. This was accomplished by U. S. Peace Corps contacts inducing a school in the States to raise money to build one school in a host country, with a Volunteer there taking responsibility for use of the funds to build such a school. A total of 482 Volunteers had been involved in this process by March 1968. See ACTION (1973a, p. 8) for recent School Partnership Program accomplishments.

The document just mentioned must be considered an administrative report rather than a research article, for no discussion of investigative procedures is provided. Some of its items are recognizable as based upon research studies mentioned separately in this book. In general, however, we must consider the Peace Corps Research Division (1968b) _Examples of Peace Corps Achievement_ as unevaluated from a research standpoint. We cite it hereafter as supplementary evidence on topics where knowledge is limited.

Ensuing sections will pay close attention to absolute measures of accomplishment in different kinds of projects, insofar as such data are available. Such sections will also present general information obtained in those projects.

Research on Teaching by Peace Corps Volunteers

Effects of Peace Corps teaching in the Philippines. On the negative side, a stated goal of the Peace Corps in the Philippines, to "improve the mastery on English and English teaching skills of Filipino teachers in the Bureau of Public Schools system, "has not been attained. In one study (Lynch, Maretzki, Bennett, & Nelson, 1966, p. 289) comparing persons with and without Peace Corps contacts, there were no significant differences either in a principal or teacher's choice of language in which to be interviewed or in his English usage score in an essay written at the request of research personnel. This comparison was made between principals and teachers in 48 municipalities forming a proportionate random sample of communities where Peace Corps teachers had served and in 27 municipalities in which they had not served. This analysis appears to be contaminated by the inclusion of principals and teachers who had not actually worked with a Volunteer whom they were discussing (Lynch et al., pp. V-1 and V-2), even though they were in communities served by the Peace Corps. In such cases there may have been insufficient contact with a Volunteer to produce any effect on language behavior even if the Volunteer were very capable.

More positively, Allen and Herring (1968, Chs. 9-13) present some indications of the degree to which the Peace Corps has influenced the Filipino school system in a shift to the teaching of modern mathematics, sometimes also called the New Mathematics: "The Peace Corps was not responsible for the initial introduction of modern mathematics to the Philippines. However, its encouragement and its promise of assistance were important factors in the [Bureau of Public Schools] decision to effect major changes in the math curriculum." Peace Corps Volunteers began introducing modern mathematics into Filipino elementary schools in 1964, but in a few schools this material had preceded the arrival of Volunteers. We are not told how many schools have been affected by this curriculum change. However, information is provided by Allen and Herring about the mathematical computation and reasoning test performance of fifth grade students in schools which had begun modern mathematics instruction in 1964 or earlier, in 1965, in 1966, or were being considered by the Peace Corps and the Bureau of Public Schools for introduction of the program in 1967. They also make comparisons among classes with differing degrees of influence by Peace Corps Volunteers.

Before presenting these data, we feel it important to note Allen and Herring's plea for a longer-range commitment to research. They were unhappy that time was not available for both pre- and post-test measures to be made. It is also regrettable (and these defects are only in part attributable to the lack of pre-test measures) that neither random assignment nor matching of comparison groups on the basis of prior information nor analysis of covariance (as a partial correction for initial differences) was performed as a means of facilitating the interpretation of test data.

Allen and Herring's Table 11.1 presents almost significant ($p \simeq .05$) differences in mean computational scores and mean reasoning scores as a function of size of school, as reflected in the number of fifth grade sections per school. Consistent improvements on each measure were exhibited as number of sections per school increased. Their Table 11.8 shows that number of sections is positively correlated with section (class) size. Not surprisingly, then, their Table 11.6 shows significantly higher computational performance ($p < .05$) and reasoning performance ($p < .01$) in classes of 33 or more than in smaller classes. This result is contradictory to evidence from Flanagan, Dailey, Shaycoft, Orr, and Goldberg (1962, Table 6-16) of poorer 10th grade reading comprehension, mathematics, and English test scores in U. S. high schools with large science and math classes than with small classes. Note, however, that Flanagan et al. (1962, Table 6-7) found urban students to be superior to rural students on these same measures.

Allen and Herring's Table 13.1 shows no significant difference in computation or reasoning scores for the three different stages of introduction of modern mathematics plus the control group without modern mathematics. They call attention to the fact, shown in their Table 13.3, that 44.4% of the control group's classes came from schools with eight or more fifth grade sections, compared to 10.0% for schools which began modern math in 1966, 22.2% for 1965, and 0% for 1964 or before. The observed differences on computation favored the control group; the 1964 group was best on reasoning, with the control group second best. Allen and Herring inferred that the 1964 group had benefited in reasoning ability from their experience with modern mathematics; if class size differences in the groups were taken into account by appropriate statistical analysis, a somewhat more favorable interpretation of the overall effects of the modern math program might be made. It should also be noted that Allen and Herring's Tables 10.4 and 10.5, listing the items of the two tests employed, make it clear that conventional, rather than modern mathematics material, was being used in evaluation, thus probably favoring the control group.

When Allen and Herring compared classes without Peace Corps involvement to those for which Volunteers had held teacher workshops; those whose teachers had had informal or limited contact with Volunteers with modern math assignments; those in which Volunteers served as co-teachers; and those which were completely taught by Volunteers, they found no significant differences in computational or reasoning performance. However, the two classes taught solely by Volunteers were dramatically superior in computation and substantially superior in reasoning, on the average, to any other group. The interpretation of this finding is greatly hindered by the previously noted failure to assign groups randomly, to match them, or to statistically control for initial differences.

Effects of PC Teaching in Ethiopia. Bergthold and McClelland (1968) performed a study of Peace Corps teachers in Ethiopia in such a way as to meet this last objection. Though Peace Corps teachers were not assigned at random, comparison of school performance, achievement motivation, and modernity of attitude of students having much versus little contact with Peace Corps teachers was facilitated by a multiple regression design in which prediction from several pre-existing variables could also be made. The Bergthold and McClelland study required the testing of 3,343 Ethiopian 10th grade students, roughly balanced in rural and urban origin as well as in different geographical areas of Ethiopia. Preference was given to schools with either a large or a small, rather than an intermediate, number of Volunteers assigned as teachers. The 20 schools thus chosen had 28% of their tested students living in urban areas, compared to 30% nationally being residents of Addis Ababa and Asmara, Ethiopia's two principal cities.

Major analyses were conducted for a subsample of 702 students, selected to yield two extreme groups with respect to amount of contact with PC teachers: 353 students had an average of eight PC teachers within the past four years of school; 349 students had an average of less than one PC teacher in that period (Bergthold & McClelland, 1968, pp. 19-26). Table 6-1 presents the beta weights for the major control variables and the multiple correlation for each of the three criterion measures. For each criterion the amount of Peace Corps contact is the strongest predictor. Prediction of pooled school performance tests would be almost as effective with the Amharic Antonyms Test, a 15 item test developed by Bergthold and McClelland as a rough test of intelligence for use in Ethiopia where Amharic is the official language. Indeed, were this test longer or made more reliable in some other way (the pre-

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Insert Table 6-1 about here

Table 6-1

Multiple Correlation Coefficients and Standardized Beta Weights Obtained in Predicting Impact of Peace Corps Teachers upon School Performance, Achievement Motivation (nAch), and Modernity of Attitudes in Ethiopia.

(Data taken from p. 92 and p. 169 of Bergthold & McClelland, 1968. Reproduced by permission.)

	Criteria Beta Weights		
Predictor Variables	Pooled school performance tests	nAch	Modernity
Economic status	.042	-.064	.099
Parents' education	-.071	-.041	-.046
Father's occupation	.002	.004	.089
Urbanization	.064	-.065	.029
Amharic antonyms	.171	---	---
Age	-.153	.026	-.031
Sex	-.135	-.022	-.073
Control of environment	.141	---	---
Peace Corps contact	.180	.109	.114
Multiple Correlations	.44	.15	.19

sent split-half reliability is .46, Bergthold & McClelland, 1968, p. 169), it might be a superior predictor compared with amount of contact with PC teachers. Because achievement motivation and modernity of attitude were considered nonintellectual criteria, the Amharic Antonyms Test was not used as a control task with either of those criteria. Nor was the student's reported feeling of control over his environment correlated with the motivation variables, it being thought primarily influential upon academic learning. Achievement motivation was somewhat predictable from the Home-Background Economic Scale (H. E. S.) devised for use in Ethiopia, and from an urbanization measure, with lower economic status and less urbanization (fewer years of life in an urban area) being indicative of higher achievement motivation. The negative weightings for sex indicates superior performance by males. Achievement motivation (nAch, for Need Achievement) was measured in the customary way by coding short stories written by the students being analyzed. Modernity of attitude had relatively high beta weights for H. E. S. and for father's occupation, with higher economic status and white collar employment of the father being predictive of greater modernity. This modernity measure was based on a translation into Amharic of a 14-item overall modernity scale based on responses by 5,500 men from six developing nations. The 14 items had been selected to correlate with education, urban experience, and industrial work experience. They are thought to measure a tendency to accept and seek change and innovation, to question beliefs based on authority, to orient toward the present and future rather than the past, and to believe in science and technology, among other characteristics. The two measures of achievement motivation and modernity of attitudes were included in the investigation because of the authors' conviction that a favorable Peace Corps impact in Ethiopia required changes in attitude as well as in intellectual attainments of a more conventional sort. As is well known to most behavioral scientists, McClelland has performed or directed a long series of studies tending to show an association between the attitudes held by individuals or honored in a country and the achievement of the individual or the economic development of the country (see McClelland & Winter, 1969, for example). That line of research formed the justification for inclusion of attitude measures as criteria in the present study.

Two kinds of alterations in the research procedure might have been desirable. First, from a statistical standpoint, use of canonical correlation would have taken explicit note of the fact that separate batteries of predictors and criteria were available for analysis and would have shown how to define a composite predictor and a composite criterion such that the correlation between composite scores would be maximized. One also wonders why so much trouble was taken to measure the "effects" of extreme cases of Peace Corps contact rather than analyze the data from all 3,343 students tested. The research problem is clearly one of determining correlations between amount of PC contact and a variety of other variables. The present study tells us a good deal about extreme groups but not about the consistency of those findings if applied in the prediction of behavior of students exposed to intermediate numbers of Peace Corps teachers.

The second alteration worthy of consideration is the improvement of the criterion measures of school performance. The three school performance measures finally employed were English Fluency, Problem Solving, and English Antonyms. The English Fluency measure had a relatively precise scoring procedure for evaluating student essays and yielded an intercoder reliability of

.85. Ability to give antonyms to 15 English words showed a split-half reliability of .61. The problem solving task consisted of using a simplified schedule of airline routes to find an acceptable, and preferably the most acceptable, itinerary between two points in the Near East or East Africa. Ten such trips were planned by each student; the split-half reliability coefficient was .74. Each of these three measures has some degree of validity as shown by various reference measures employed by Bergthold and McClelland. However, it would have been desirable to attempt to determine the effect of Peace Corps teaching upon customary Ethiopian measures of school performance as well as upon the measures actually employed. The authors attempted to obtain eighth grade national exam English scores and tenth grade first semester class rankings for each student. Neither of these measures could be employed as a criterion. Not enough eighth grade national examination scores became available for analysis, and ranks within a class most of whose members had high contact with Volunteer teachers necessarily averaged the same as ranks within an equal sized class with low PCV contact for most members, making a difference in mean rank of individuals with high versus low PCV contact unlikely. Note, however, that within schools the correlation of the ranks with Bergthold and McClelland's pooled school performance measures was substantial, having a median r of .57.

One way to obtain more suitable criterion data would be to redo the study at the eighth grade level so that national examination scores would be readily available as a measure of Peace Corps impact. A tenth grade study was done by Bergthold and McClelland because they wished to do their testing in English, after a maximal number of years of Peace Corps teaching and before special schools such as teacher training schools began to siphon off students. Use of the national examination would have made testing in English unnecessary except for possible comparative purposes, and testing in the eighth grade would have permitted a comparison of students with heavy and light PCV contact over the previous two years rather than four. It would, however, have been essential that heavy PCV contact and light PCV contact be randomized across individual students or evidence of equivalent ability in the two groups be presented as a minimal control. Bergthold and McClelland (1968, p. 158) may have had a problem in this regard when they checked for comparability of schools with high or low density of Peace Corps teachers by using the number of passing scores from the (tenth grade) Ethiopian School Leaving Certification Examination (ESLCE) of the previous year as a criterion. They found no relation between schools ranked in the order of number of Peace Corps teachers and the number of passes on this examination. But the previous year's data were apparently scores of tenth graders of Spring 1967, and the density of Peace Corps teachers in schools was based on figures for those tenth graders over the past four years. Therefore, the equal number of passes on the ESLCE with high and low density of Peace Corps teachers could mean either that students had identical ability and Peace Corps teacher density had no effect or that ability differences and Peace Corps teacher density had compensating effects on number of passes in the two groups.

Except for the criterion measure used, the analysis just discussed is not very different from one employed by Bergthold and MCClelland (1968, pp. 28-33) in testing for an "atmosphere effect" in which students who had little direct contact with Peace Corps teachers might show improved scores on criterion variables if they attended schools with high average contact with such teachers rather than low average contact. The 349 students previously selected as having an average of less than one PC teacher within the previous four years of school were subdivided into a group of 188 from schools where the average number of Peace Corps teachers per student in the previous four years was three or more and 161 from schools where this average was below three. The high-contact school subgroup showed significantly ($p < .01$ or .001) higher means than the low-contact school subgroup with respect to problem solving, English antonyms, and achievement motivation. No other outcome measure showed a statistically significant mean difference. The investigators suggest that an atmosphere effect resulted from out-of-class contact with Volunteers, association with students who had substantial contact with Volunteers, and influence of Peace Corps teachers upon other teachers, with influence of the other teachers upon still other teachers and upon students. Just why there should be this kind of effect but no atmosphere effect upon the School Leaving Examination is unclear.

Relative Economic Costs and Benefits of Peace Corps teachers in Ethiopia. Bergthold and McClelland have performed what they recognize as a most tentative and preliminary analysis of the long-term benefits to the Ethiopian economy of having a Peace Corps Volunteer serve for a year as a teacher. This analysis combined their previous estimates of gains in English fluency, problem solving, and achievement motivation due to heavy Peace Corps teacher contact with a new set of data -- salary data as a function of these three measures of school achievement. The monthly salaries of 24 men who were relatively new in the employ of a large Ethiopian bank were correlated with their scores on these three achievement measures, based on tests conducted through the cooperation of the bank and the employees. A multiple correlation of .38 was obtained, indicating some predictability of salary from school achievement.

A substantial leap of faith is required to conclude that experimentally induced improvements in school performance will lead to this sort of salary change in a large population of students entering the work force. Once such an assumption is made, however, it is possible to estimate the increased salary per student and per group of students taught by a Volunteer because of that instruction. Bergthold and McClelland's final estimate was that one Peace Corps Volunteer teaching for a year leads to a $27,600 total increase in potential earnings over a 30-year working lifetime for the approximately 150 students taught each year by the PCV. This is an average of about $180 per student which does not seem unusually large, even in view of the fact that the student might have had contact with a Volunteer for only one hour of each school day for a year.

At several points, these authors intentionally underestimated the benefits being calculated. They do not mention one possible source of overestimation: For the 14% of 10th grade students who were girls, a 30-year working lifetime and comparable salary benefits from education to those of men are probably unrealistic. Assuming that this factor balances earlier conservatism by Bergthold and McClelland, we proceed to their estimate of total benefits and costs. Having a PCV available saved the Ethiopian government about $5,000 for an expatriate teacher because of the great shortage of qualified teachers in Ethiopia. On the other hand, total costs to the U. S. of providing a Volunteer for a year averaged almost $8,000. If we round off the total increase in potential earnings to $27,000, making a total benefit of $32,000, the ratio of benefits to Ethiopia compared to costs to the U. S. becomes 4 to 1. For the period from 1962 to 1968, the 2,200 teacher-years of Peace Corps service contributed to Ethiopia by the United States have a potential, then, of over seventy million dollars in long-range economic growth.

The foregoing assessment of costs and benefits is of interest but extremely difficult to test for accuracy. The reader desiring more concrete facts may be content with the following: (1) 2,200 teacher-years of Peace Corps service would have cost the Ethiopian government $11,000,000 for expatriate teachers regardless of the comparative efficacy of the two kinds of teachers; and (2) the Ethiopian student-teacher ratio of about 30 to 1 implies that the 2,200 Peace Corps teacher-years represent 66,000 complete student-years of education provided in Ethiopia between 1962 and 1968.

Effects of PC teaching in the Dominican Republic

Peace Corps Volunteers in the Dominican Republic have been integrated into a national in-service training program for rural teachers (Long & Laurie, 1968). These rural teachers, who had not completed a 12 year education, including Normal School graduation, were enrolled in a program requiring two seven week summer sessions and three years of Saturday classes. Dominican Normal School graduates served as Teacher Trainers (Maestro Guias), teaching subject matter to the in-service teachers every Saturday morning. Peace Corps Volunteers taught teaching methods every Saturday afternoon during the academic year. In addition each PCV visited 8-10 in-service teachers and 8-10 schools each week. After observing an in-service teacher for several hours, he discussed the lesson with the teacher and made several suggestions. Most of the 27 PCVs in the first group assigned to this project had previous teaching experience or had recently graduated from college with an education major.

The evaluation of the success of this project was based on observation of 20 in-service and six other teachers and interviewing of a large number of school personnel or patrons. The information reported by Long and Laurie is sketchy so that we can do little more than conclude that the program was popular with in-service teachers, teacher trainers, and administrators. Laurie rated the teachers she observed for an hour each with respect to lesson planning, course content, class presentation, techniques used, positive teacher-student interaction, and responses from the students toward their teachers. Her composite ratings for each in-service teacher were all "average" or "good;" her ratings for the other teachers were all "poor." However, it appears likely that she knew which teachers were receiving in-service training, preventing the ratings from being blind. The work of the PCVs was highly regarded by those interviewed about it. The principal **suggestions** were that their Spanish language facility should be increased, that their knowledge of the Dominican Republic should be increased, and that their knowledge of methods of education, educational psychology, etc., should be increased.

Other Peace Corps educational activities. In addition to primary and secondary school teaching (or as specialized parts of it in some cases), Peace Corps Volunteers have taught in universities, vocational schools,/and physical education classes,have set up athletic leagues, performed teacher training and many special projects, and have made a variety of contributions during their off-duty hours. Here are some of the specific contributions reported by the Peace Corps Research Division (1968b): Laboratory manuals and textbooks were written or rewritten in whole or in part by Volunteers. Student newspapers and student clubs were started or advised by Volunteers, school libraries were established and operated, language laboratories were established and maintained, and at least one radio school was developed and operated by a Volunteer. The University of Liberia Law School was largely staffed by Peace Corps Volunteers for a time, with these Volunteers starting a literary law journal, building a law library, and drafting legislation on higher education. Volunteers also were instrumental in establishing a graduate mathematics program at the State Technical University in Chile.

Research on Educational Television Conducted with Peace Corps Support

Comstock and Maccoby (with some associates for certain volumes) (1966) have prepared a 12 volume report of their research on an educational television (ETV) project conducted in Colombia by the Peace Corps with the involvement of the Colombian Ministries of Communication and Education. Interested readers are referred to Comstock and Maccoby for a thorough treatment of this topic.

Organization and growth of the ETV project in Colombia. The ETV project in Colombia began with the arrival of about 80 Volunteers in late 1963 and very early 1964. Telecasting of instruction began in February 1964 with a curriculum of 10 courses for one or another of the five elementary grades, each television course consisting of two 15 minute telecasts each week. These telecasts reached an estimated 38,000 pupils in 200 elementary schools. As Table 6-2 shows, this program increased to 16 courses, 1,250 schools and 350,000 pupils in the third year, second semester, of the project. Correspondingly, the number of teachers using televised courses in their teaching increased from 1,000 to 8,500. Comstock (1969a) later reported that more than 400,000 elementary school children received the core of all basic instruction by television. Comstock and Maccoby (1966, Research Report 1, pp. 57-50) have

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Insert Table 6-2 about here

Table 6-2

Growth of Instructional Activity in the Columbian ETV Project from 1964 to 1966

(Based largely on Table 1.2 of Comstock & Maccoby, 1966, Research Report 1. Reproduced by permission.)

	Beginning of TV teaching Feb. 1964	End of 1st sem. June 1964	July-Nov. 1964	Feb.-June 1965	July-Nov. 1965	Feb.-June 1966	July-Nov. 1966
Total number of courses[a] for pupils	10	10	10	15	15	16	16
Schools with Peace Corps TV	200	360	500	725	925	1,150	1,250
Teachers using ETV in teaching	1,000	1,800	2,500	4,025	7,000	7,800	8,500
Pupils taking televised courses	38,000	68,500	97,000	153,000	260,000	345,000	350,000

[a] Each course consisted of two 15 minute televised lessons a week, or 30 minutes a week for each course.

reported the results of a UNESCO study showing that the cost of the ETV project in 1965 to the Colombian government would have been $735,000 (U.S. dollars) had Peace Corps personnel been paid the same rates as Colombian personnel. This averages out to a 5 cent per hour per user cost, compared with estimated costs ranging from 9 cents to 59 cents per hour per user in other countries not using Peace Corps personnel. Even when the actual cost to the Peace Corps is calculated, the Colombia ETV project provided instruction at about 7.5 cents per hour per user.

Three kinds of assignments were given to Volunteers on this project: (a) *production* of televised material and printed guides for its use, (b) *utilization* or the working with teachers and principals in order to facilitate and improve the use of televised instruction in each school being used, and (c) *TV set installation and maintenance*. Originally about one-fourth of the PCVs on this project were assigned to production, two-thirds to utilization, and the remainder to installation and maintenance. There was a slight increase in the proportion assigned to utilization later (Comstock & Maccoby, Research Report 1, 1966, p. 10). Table 6-3 shows a growth in number of Volunteers on the project from 77 to 88 and in the number of Colombians (salaries

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Insert Table 6-3 about here

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paid from Colombian government funds) from 22 to 52. This greater growth in Colombian personnel was desirable since the purpose of the project was to develop a system of educational television in such a way that it could phase out Peace Corps personnel and replace them with Colombian staff. Table 6-3 shows that Colombians were predominantly involved in production at first (all

Table 6-3

Changes in Numbers of Peace Corps (PC) and Colombian (Col.) Persons Employed on ETV Project

(From Table 1.3, Comstock & Maccoby, 1966, Research Report 1. Reproduced by permission.)

	Production		Utilization		Installation-Maintenance	
Dates	PC	Col.	PC	Col.	PC	Col.
February 1964	24	17	45	0	8	5
July 1966	16	25	67	13	5	14

teachers appearing on the televised programs, for example, were Colombians) but that installation and maintenance became an increasingly common assignment for Colombians, with utilization being the one activity where PCVs were always in the majority. Since the Comstock and Maccoby series was published, Peace Corps involvement in Colombian ETV has ceased. However, televised instruction continues in many departments of the country. The utilization program, much reduced from its Peace Corps size, is being conducted primarily through supervisory staff of the Colombian Ministry of Education (Maccoby, 1970).

Operational practices and difficulties. The television courses have formed the core of instruction in each subject matter, rather than being considered supplementary instruction. The television teacher for each course has been largely responsible for preparing the Teacher Guide for that course in addition to organizing the course and presenting it on television. Producer-directors, originally PCVs but more commonly Colombians by 1966, have helped to adapt the instructional material to television, all production being done on videotapes to permit re-use. Studio technicians, largely Colombian from the beginning, have maintained the studio equipment; other studio personnel have done art and clerical work.

Although this project was originally established on a cooperative basis with the national Colombian government and continues to work with that government, greater financial support available at the department level (departments being regional governments in Colombia) led to introduction of ETV under department auspices. A representative of the national Ministry of Education has been in charge of instructional content; a representative of the Ministry of Communication has been in charge of the studio and thus of television production. Each department involved (only one at the beginning of the project, eight in 1966) was required to provide two special ETV supervisors, a technician for installation-maintenance, a vehicle, an office, and an annual budget for salaries, supplies, etc.

Once a department agreed to participate, the Peace Corps began a four stage process: First, schools were inspected and assigned for ETV use if such items as quality of electrical wiring, adequacy of viewing rooms, and number of potential ETV students were judged satisfactory. Second, a TV set was installed in one room of each school selected, training sessions were conducted for teachers, and televised instructions began. Third, the utilization Volunteers or Colombian counterparts worked with school personnel and technicians to improve the operations, eliminating problems involved in scheduling the TV room for use, facing equipment breakdowns, improving seating and room-darkness, and helping the classroom teachers in preparing "motivation" lessons to precede TV classes and "follow-up" lessons to succeed them. Fourth, after about one semester or however long it takes to develop a smooth operation, all ETV responsibilities in the school were transferred to Colombian personnel and the PCVs moved to another place to begin Stage 1 again. (All material in the foregoing two paragraphs based on Comstock & Maccoby, 1966, Research Report 1.)

Table 6-4 presents teacher reports on factors interfering with TV instruction. The most frequent complaint (44.3% of 874 teachers making it) was that of insufficient seats or benches for the children; the least frequent complaint reported (made by 6.5% of the teachers) was that television makes children undisciplined. Hardly any complaints seemed in principle insoluble. Maccoby

Insert Table 6-4 about here

Table 6-4

Factors Reported by 874 Colombian Teachers as

Interfering with Television Instruction

(Data from first semester, 1965, reported in Comstock & Maccoby, 1966, Research Report 10, pp. 43-44. Reproduced by permission.)

General Factors	Percentage of Teachers Reporting
Electricity often fails	37.1
There is much confusion because classes cannot change rooms efficiently	36.4
There is insufficient time for "motivation" and "follow-up"	26.1
Reception is bad because the TV set is too complicated to adjust	24.4
Television conflicts with recreation periods	16.5
TV set does not work, although there is electricity	16.4
Television conflicts with religious activities	8.1
Television makes children undisciplined	6.5

Table 6-4 (Cont.)

Interfering Factors in the Viewing Room	Percentage of Teachers Reporting
Insufficient seats or benches for the children	44.3
Too many children in room to comfortably watch programs	35.5
Cannot hear, because sound reception is bad	30.8
TV room is not dark enough	30.0
Cannot hear, because of outside noises	19.6
TV is not placed so that all children can see it	7.1

and Comstock (1966, Research Report 4, p. 135) found a significant negative relationship between amount of help a teacher reported receiving from the utilization Volunteer and occurrence of each problem, except for the one on interference with religious activities. This effect was a genuine one, rather than a reflection of similar attitudes regarding help and problems, for page 133 of the same report states that teachers in areas where Volunteers were actually giving a great deal of attention to the schools were much more likely to indicate that they were given a great deal of help by a Volunteer than teachers in areas where Volunteers were providing less assistance.

The foregoing relationship potentially could harm the effectiveness of the ETV project because degree of help by PCVs always reduces when utilization Volunteers move on from an operative TV school to one where ETV is being introduced for the first time. Comstock and Maccoby (1966, Research Report 4, pp. 144-146) have reported on one city where the problems reported in Table 6-4 were unusually high after the PCVs left, with two of them reducing significantly after utilization Volunteers were reassigned there. In a second city, however, no significant increase in problems occurred after Volunteers were withdrawn. This latter effect was attributed to better orientation of teachers and other organizational improvements made by the time of that withdrawal.

Comstock and Maccoby (1966, Research Report 5) have analyzed 337 critical incidents reported by 33 utilization Volunteers who described problems of improving the ETV program in their work diaries. Table 5.7 of that report indicates that the Volunteers believed that they solved 47% of the potentially solvable problems for which they described attempted solutions and believed with reservations that they solved another 31%. Their Table 5.1 indicates that 74% of the 337 critical incidents were potentially solvable by the utilization Volunteer, with the remainder representing power failures, studio or transmission problems, difficulties with the teaching guides, or TV set breakdown. Their Table 5.5 indicates that PCVs attempted to solve problems by using very little pressure (explaining the need for change) in 81% of the cases where their tactics were reported, by demanding change (greater pressure) in 16% of the cases, and by referring the problem to higher authorities in 3% of the cases.

One would expect that these critical incidents would bear some resemblance to the list of difficulties reported by teachers and presented in Table 6-4 above. Although they do, Table 6-5 below shows that the PCVs also perceived difficulties arising from the teachers themselves. It is partly for this reason that so much of their effort at solution of problems consisted of explaining the need for change.

Insert Table 6-5 about here

At the beginning of the ETV project the attrition rate among Volunteers was extremely high, apparently because of problems in organizing the very complex educational television network. Thus of the 82 Volunteers originally assigned to the ETV project, 20% left the Corps prematurely and 15% transferred to another project whereas, of the 55 replacement Volunteers later assigned to the project, 10% left prematurely and 5% transferred to another project (Comstock & Maccoby, 1966, Research Report 9, pp. 12-13). These authors (pp. 27-30) also found evidence that the original Volunteers had been selected and trained with an undue emphasis upon television, as contrasted to teaching. The 21 utilization Volunteers from the original group who remained to the end of their tour of duty showed a very significant ($\underline{p} < .001$) decline in their mean rating of the adequacy of the training they received, on the basis of ratings on arrival in Colombia and on departure. On the second measurement, four out

Table 6-5

Kinds of Problems in Potentially Solvable Critical Incidents Reported by Utilization Volunteers in Colombia ETV Project

(Based on Table 5.3 of Comstock & Maccoby, 1966, Research Report 5. Reproduced by permission.)

Problem as Described by Volunteer	% of All Potentially Solvable Critical Incidents
Teaching Techniques	27
Adherence to ETV	19
Hostile or Uncooperative Attitude	18
Viewing Facilities	16
TV Set Operation	8
Local Guide Distribution	8
Adequacy of School for ETV-Electricity, wiring, security	7
Inability to Understand What Was Required	4

of five specified "educational methodology" as the major deficiency in training whereas only one in 10 did so at the first rating. Comstock et al. also reported that the 55 replacement Volunteers included more former teachers than the original group and received more emphasis upon teaching when they were trained for the Colombia project.

Effects of ETV upon learning. During the first semester of the ETV project an experiment was conducted in which 80 schools were assigned at random to four conditions: "(a) Televised instruction plus a full amount of help from the utilization Volunteer. (b) Televised instruction plus a restricted amount of help from the utilization Volunteer. (c) Televised instruction with no help from the utilization Volunteer. (d) Instruction without television, with no help from the utilization Volunteer." Some restrictions upon randomness were necessitated by the fact that certain schools received a TV set before randomization was performed, making it most practical for those schools to go into condition (a) since working relationships with Volunteers had already begun. In some cases it was also necessary to assign schools to condition (d) on the basis of TV reception problems, thus probably weighting condition (d) with too many rural (and possibly culturally rural) schools.

Pretests were made with about 5,000 tests, each for one of six courses and a different pupil. These tests usually were the pupils' first experience with multiple choice items, which predominated in each test. In addition to preparing pupils and teachers for later objective testing, the pretests served as a form of practice for the research staff and also permitted an experiment to be conducted on the effects of opportunity for cheating. The latter experiment, comparing 148 students using alternate test forms and simultaneous monitoring by Volunteer and teacher, 162 students using alternate forms but monitoring only by the teacher, and 99 students using a single form and monitoring only by the teacher, showed no significant mean differences between groups (Comstock & Maccoby, 1966, Research Report 2, pp. 138-140).

At the end of the semester, posttesting was given in 26 of the original 80 schools, the criterion for testing being that a full semester had been spent on the treatment assigned to that school. Posttests were administered for nine of the 10 TV courses then in operation -- no adequate test could be developed for one first grade course, Lenguaje I. (Lenguaje is "a potpourri of social skills, language arts and entertainment, as well as grammar and spelling," according to Comstock and Maccoby, 1966, Research Report 1, p. 13.) Table 6-6 shows that mean scores for all courses combined differed significantly ($p < .01$), with the highest mean for *TV plus full Volunteer help* and the lowest mean for *no TV and no Volunteer help*. However, *TV plus restricted Volunteer help* was less successful than *TV with no Volunteer help*. Only three of the individual courses showed significant mean differences: Lenguaje II, Natural Science IV, and Social Science III, with the last-named course being the only one of the three for which *TV with full Volunteer help* failed to yield the highest mean. These results seem favorable to the use of ETV and to the provision of Volunteer help, but they cannot be considered dramatic in view of the inconsistency from course to course.

Insert Table 6-6 about here

A second study of student achievement attempted to establish whether students who had previously received television instruction and were currently being taught by teachers who had ETV experience would learn more than students naive to ETV who were being taught by teachers naive to ETV. A comparison was

Table 6-6

Mean Post-Test Scores in Various Subjects as a Function of Four Experimental Treatments

(Based on Table 2.1 of Comstock & Maccoby, 1966, Research Report 2. Reproduced by permission.)

Course	TV plus Full Volunteer Help	TV plus Restricted Volunteer Help	TV with No Volunteer Help	No TV and No Volunteer Help	p[a]
Lenguaje II	29.6	25.4	25.0	20.4	<.01
Mathematics I	25.8	25.0	24.5	24.7	>.05
Mathematics V	25.9	24.8	26.7	22.7	>.05
Natural Science III	25.2	25.6	23.8	25.3	>.05
Natural Science IV	26.9	25.2	24.5	23.5	<.05
Natural Science V	26.0	24.0	25.2	24.6	>.05
Social Science III	25.1	21.5	27.8	25.7	<.05
Social Science IV	26.5	22.7	26.1	24.5	>.05
Social Science V	25.2	24.0	26.6	24.1	>.05
All Courses	26.2	24.2	25.6	23.9	<.01

[a] No mean in this table is based on less than two nor more than seven classes. The average class size was about 40; 178 classes and 7,100 individual pupil test scores are represented in this table. However, a conservative testing procedure was employed in which F was calculated for each course using class means as the units, and the numbers of classes (rather than the numbers of pupils) were used in the calculation of degree of freedom values.

made for the only 10 Bogota teachers who were teaching Natural Science V in the 1964 experiment described above and were also teaching it in the February-June 1965 semester, comparing pre-test performance (after only three weeks of ETV) in the former group to performance in the latter group after the same period of time in ETV for that course. The 1964 experiment used students with no previous ETV experience; they were compared only to those 1965 students who had received ETV instruction before beginning Natural Science V. The anticipated superiority of the 1965 students failed to occur, although seven out of ten teachers' class differences from year to year were in the predicted direction. When 1965 students who had not received previous ETV were compared to those who had, there was some indication ($p < .10$) that the latter were superior (Comstock & Maccoby, Research Report 2, pp. 104-110).

Instructional television for teachers' inservice training. After an unsuccessful experiment with single TV programs on child psychology, teaching aids, classroom management, etc., the Colombia ETV project leadership decided to offer a "new math" course for teachers by television in order to facilitate the teaching of such material to pupils. The "new math" inservice course consisted of two programs a week for eight and one-half weeks. A correlational, rather than experimental, research design was employed; but scores on predictor variables such as the number of training programs each teacher watched were used to segregate teachers into groups for analysis of variance or related statistical treatments. Separation of 44 Bogota teachers into five groups on the basis of the variable just mentioned and comparison of those groups on a math test administered to the teachers at the end of the course yielded a significant F ($p < .01$) and only one reversal from a perfectly orderly pattern of increased mean math scores with increased exposure (Comstock & Maccoby, 1966, Research Report 6, pp. 2-9). Similar results were obtained in a later study using 1,341 teachers, approximately one half of the primary public school teachers in Bogota and all primary teachers in those towns in the Department of Cundinamarca where testing was conducted (Comstock & Maccoby, Research Report 6, pp. 24-30).

Though it seems reasonable to suppose that amount of learning increases with amount of viewing, the two studies just mentioned cannot be accepted unequivocally. Since groups were not assigned randomly, at least part of the observed test score differences may be attributable to self-selection by teachers, with the more capable teachers watching more programs and having higher scores because of their superior learning ability. Similar reservations must be made about the other findings to be reported in this section. Note, however, Comstock and Maccoby's (pp. 19-20) argument that self-selection was not operative since group assignment did not correlate with demographic variables.

A further investigation was performed in the city of Medellin, where 81 teachers had been organized by Volunteers into 12 groups which differed by choice rather than experimental design as to whether or not a Volunteer supervised or participated in the group; whether or not there were discussion sessions immediately after each telecast; whether or not each teacher in the group kept a notebook of course material; and as to the proportions of television programs watched. When the groups are arranged in order of total intensity of involvement based on these four considerations, that order correlates .826 (rank order correlation) with mean test score on the mathematical material presented ($p < .01$). (Comstock & Maccoby, 1966, Research Report 6, pp. 9-15.)

A comparison was made of five normal school classes which varied on three factors: (1) the amount of viewing of the ETV "new math" course, (2) whether their members were also taking a "new math" course at the normal school, and

(3) the specific normal school the students were attending. A one-way analysis of variance (performed in lieu of a factorial analysis since the variables were not balanced across groups) showed a significant ($p < .001$) difference in mathematics test score means among the five groups with 86 teachers total. Sub-analyses made it clear that ETV in addition to a "new math" course led to more learning than the course alone. The very poorest performance, however, occurred in a group which did not have the untelevised course and only watched a few ETV sessions. The authors regretted that this group did not watch all ETV sessions in order to provide a baseline for measuring the added effects of taking the conventional course (Comstock & Maccoby, 1966, Research Report 6, pp. 16-19).

In the study mentioned earlier which used 1,341 teachers, a highly significant ($p < .001$) difference in mean math test scores appeared between groups differentiated on the basis of the proportion of times the teachers participated in after-telecast discussion, as compared to the number of times they watched telecasts. This difference was completely attributable to lower test score means for the group participating in discussions after less than half the telecasts seen, compared to means for three groups having greater discussion participation. This effect was predictable from the earlier finding of high means for groups with high frequencies of watching ETV since watching ETV proved highly correlated with high rates of discussion participation (Comstock & Maccoby, 1966, Research Report 6, pp. 45-48). A high probability of taking notes on televised lessons was also associated with a high frequency of viewing such telecasts, as was the presence of PCV supervision of the viewing. Presumably these factors also were correlated with amount of learning (Comstock & Maccoby, 1966, Research Report 6, pp. 31-32).

Attitudes Toward ETV Held by Teachers. Three kinds of measures show that Colombian teachers involved in the ETV project held high opinions of its promise and performance: (1) Before the first semester of ETV classes began, 83.2% of teachers questioned stated that television could reinforce their own teaching "a great deal," this being the most favorable option available. At the end of the first four semesters of the ETV project, surveys conducted with teachers who had been using ETV in the classroom, with some differences in the sort of sample obtained, showed from 79.7% to 91.3% also making this most favorable response. (2) A survey of 66 Bogota teachers who had spent a full year teaching with television revealed that 81% found such teaching easier than it had been a year before, and 86% felt that the quality of the telecasts was better than a year earlier. (3) At the end of two years of telecasting 66% of the teachers surveyed said they wanted more televised instruction for their pupils than was currently being provided (Comstock & Maccoby, 1966, Research Report 8, pp. 72-74). We have no evidence concerning pupils' attitudes toward ETV other than an anecdotal report that they always seemed fascinated to observers visiting a TV classroom. However, we know that only 36.8% of teachers questioned about their experience in an inservice ETV course felt that as much could be learned in such courses as from in-person classes. This percentage increased to 56.5 for those teachers who attended all sessions of the ETV course. Teachers questioned also showed a strong desire for face-to-face contact with an expert: Among possible instructional aids which they could ask for, 44.4% wanted the opportunity to ask questions of experts and 48.2% wanted to participate in a conference meeting or class led by an expert. Possibly pupil satisfaction with their ETV courses was higher than that of teachers with theirs because teachers filled the role of experts for the pupils (Comstock & Maccoby, 1966, Research Report 6, pp. 36-40).

When we turn to an analysis of ratings of ETV courses offered to the children, we find that the percentage of teachers saying all of a course's televised lessons were excellent began at 32.3% in the first semester and climbed in two of the next three semesters, ending at 47.1% for the fourth semester, just below the 47.6% for the third semester. Different courses varied greatly in the percentages of "excellent" ratings assigned them, with the natural science courses consistently rated the highest and social science courses usually rated the lowest. Music, Lenguaje, and mathematics followed natural science, in that order (Comstock & Maccoby, 1966, Research Report 8, pp. 9-17). Dissatisfaction with the social science courses seemed to center in a feeling that telecasts for those courses covered too much material for the children to comprehend. Comstock and Maccoby felt that this complaint arose from Colombian teachers' tendency to emphasize rote memorization rather than to encourage pupils to listen with interest to a wide spectrum of information without feeling it necessary to remember it all. Table 6-7 presents average relative frequencies of this and six other dissatisfactions for all courses combined and

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Insert Table 6-7 about here

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for individual courses having a high frequency of a particular complaint. The criticism that "The programs do not teach concepts, but only facts," seems to have a different meaning than in the U.S., apparently implying an absence of aphorisms for the children to memorize. It will be seen in Table 6-7 that no course received any particular criticism more frequently than 31.9%; however, the preceding semester had yielded percentages as high as 45.7 and 58.5 for

Table 6-7

Percentage of Teachers Reporting Each of Seven Dissatisfactions with ETV Courses, for All Courses Combined and for Individual Courses Having High Frequencies of Particular Complaints - Second Semester, 1965.

(Based on second half of Table 8.8, Comstock & Maccoby, 1966, Research Report 6. Reproduced by permission.)

Dissatisfaction	Average Per Cent Complaining	Courses Exceeding Average by Three or More Percentage Points	Per Cent Making Complaint About Course
A. The programs cover too much material for the children	17.7	Social Science V	31.9
		Mathematics IV	23.6
		Mathematics V	22.2
		Mathematics III	21.5
		Social Science IV	21.4
B. The children are not able to see clearly objects, maps, and things which are shown.	19.3	Mathematics I	29.6
C. The children learn only from the pre-program "motivation" and the post-program "follow-up," and not from the program.	10.9	Mathematics II	18.7
		Mathematics I	15.2
		Lenguaje II	14.4

Table 6-7 (Cont.)

Dissatisfaction	Average Per Cent Complaining	Courses Exceeding Average by Three or More Percentage Points	Per Cent Making Complaint About Course
D. The programs entertain, but teach very little.	11.8	Lenguaje I	19.9
		Lenguaje II	18.5
		Lenguaje III	17.5
		Mathematics II	17.4
		Music I	17.2
		Mathematics I	15.9
E. "The programs do not teach concepts, but only facts."[a]	9.1	Mathematics II	13.7
		Social Science V	12.5
F. The programs teach little the classroom teacher cannot teach.	8.7	Mathematics II	11.8
G. The television teacher does not have a good personality for television	4.2		

[a] Placed in quotes because the statement appears to have a different meaning in Colombia than in the U. S.

two social science courses covering too much material (Comstock & Maccoby, 1966, Research Report 8, pp. 23-39).

While many of the attitudes of teachers toward ETV reported above are very favorable, there is enough negative evidence plus Volunteers' experience with teacher resistance (reported earlier in Tables 6-4 and 6-5) to make it evident that techniques of persuasion would be useful for Volunteers even after all possible steps at improvement in telecasting were taken. For that reason an experiment was conducted with 100 teachers in order to determine the effects of two variables upon attitude change and defensiveness concerning a particular teaching technique. A two-by-two factorial design was employed, with about 25 persons in each group, the variables being type of motivation and degree of departure from previous practice which was implied. The motivation employed was either an appeal to the teacher to try the new technique, as a sign of being professional in outlook, or an appeal to make the change in order to increase teaching effectiveness. The degree of departure was said to be either "small" or "great;" the motivating argument was called either "professional" or "efficacy" in orientation. The attitude to be inculcated was advocacy of the "Socratic Method."

This experiment yielded significantly greater ($p < .01$) reported willingness to spend time learning more about the advocated practice when "professional" rather than "efficacy" motivation was used. However, an alternate form of the same question yielded significance at only the .10 level, and six other questions or alternate forms failed to show significance. There was a hint of greater persuasion with the "great departure" argument than with a "small departure," but none of the eight questions yielded significance beyond the .10 level. No significant interaction between the two variables appeared.

Defense arousal was not significantly affected by the type of motivation, but two out of three items yielded significantly ($p < .001$) greater defensiveness following a "great departure" appeal than a "small departure" appeal. One item also showed a significant ($p < .05$) interaction, with greater defensiveness being associated with "great departure" if "efficacy" was employed and with "small departure" if "professional" motivation was employed (Comstock, 1969a; see also Comstock & Maccoby, 1966, Research Report 7). Comstock (1969a) has called the .001 effect a "boomerang" in that an appeal calculated to be persuasive has interfered with acceptance of an innovative teaching procedure. It is paradoxical that one of the indications of defensiveness (assertion that the advocated Socratic method was similar to the teacher's own pedagogic method) was more likely to occur when the experimental material asserted that the Socratic method was a great departure from existing methods than when it was called a small departure.

Attitudes of Volunteers Serving in the Colombia ETV Project. Comstock and Maccoby (1966, Research Report 9) have reported the results of factor analyzing 64 items administered to 79 members of the original group of ETV Volunteers shortly after that group's arrival in Colombia in February 1964. A principal axis analysis with varimax rotation yielded 21 factors for which at least one item exhibited a loading of .40 or higher. The same questionnaire (omitting a few questions irrelevant to retesting) was given to many of the same Volunteers in 1965, shortly before they finished their two year term of duty. A measure of change in attitude was restricted, however, to a homogeneous group of 22 Volunteers who were trained together and spent their entire time overseas as utilization Volunteers for the ETV project.

Sixteen of 48 items analyzed showed a mean change of at least marginal significance ($p < .10$). Factors showing at least half of the items tested to have significant change were I (Belief in Latin Potential for Progress), IV (Orientation toward Foreign Culture), V (Concern with Material Well-Being), VII (Self-confidence in Leadership Capability), X (Anxiety over Achievement), XI (Belief in Effectiveness of Latin Governments), and XV (unnamed factor wherein the item which changed its mean significantly referred to satisfaction with own job performance). A capsule summary of trends has some danger of oversimplification, but we make it nonetheless. The qualities identified by each factor were increasing for each significantly changed item except in Factor X (decrease) and Factor IV (Evaluation of Peace Corps Training and Expectation of Making Colombian Friends decreased, but Making Colombian Friends Thus Far increased). In general, high mean ratings were associated with certain items implying high ability of the individual Volunteer (e.g., Self-evaluation of Organizing Ability and Self-evaluation of Cooperative Skills), with certain items implying Colombian potential for progress (e.g., Colombian Potential for a High Standard of Living), and with certain items implying satisfaction with the ETV project. Low mean ratings were given to items concerning worry over health, other dangers, friendliness of local people, adequacy of staff attention, keeping "problem" Volunteers in Colombia, ability to see results of the ETV project, one's living allowance, and one's ability to use Spanish. There was little change in personal goals during Peace Corps training and service, and the Volunteers felt that there should be no manipulation by the U. S. of the country receiving aid, even for the purpose of securing success of Peace Corps projects.[1]

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Insert Footnote 1 about here

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Semantic differential data were also obtained twice from each of 20 original utilization Volunteers and 19 replacement Volunteers. For each of 16 concepts such as Colombian government, each Volunteer made ratings on 21 scales such as "uninteresting - interesting," using a rating procedure with seven points, "1" standing for the adjective stated first and "7" for the adjective stated second in the scale, with intervening numbers indicating intermediate positions between the two pure cases. Most of the 21 scales had previously been grouped by Osgood, Suci, and Tannenbuam (1957) into three categories -- Evaluative, Potency, and Activity, with four scales being left in a miscellaneous category. The first testing of each Volunteer was conducted at a time when the original Volunteers had three months left to serve in Colombia and the replacement Volunteers had just arrived. The second testing occurred three months later.

Comparisons of the two groups are confounded, then, with the stage of service in which each group found itself when tested.

Comstock et al. see a major result in the semantic differential analysis to be the presence of predominantly negative changes during the period from original to second test. Since each adjective pair had higher numbers associated with the more favorable term, this means that most statistically significant shifts were toward more unfavorable attitudes. Examination of the data reveals another, somewhat opposite finding, however. Let us arbitrarily call any mean score from 1 to 1.5 highly unfavorable and any mean score from 5.5 to 7 highly favorable. Then, on the second rating, highly favorable mean scores occur with about the same frequency as significant negative changes, and highly negative scores occur with about the same frequency as significant positive changes, as shown in Table 6-8 below.

Insert Table 6-8 about here

The replacement Volunteers may be seen to have both a higher proportion of significant changes in a negative direction and a higher proportion of their extreme scores in a positive direction than the original Volunteers. Furthermore, Table 6-8 shows that the absolute numbers of statistically significant changes and of extreme mean values were almost exactly double for replacement Volunteers, compared to original Volunteers. It is unknown whether these differences reflect basic characteristics of the two groups of Volunteers or simply the stage in their respective tours of duty at which they were tested.

Note from Table 6-8 that it is possible for the same concept to yield both significant negative shifts and highly favorable mean ratings. For example,

Table 6-8

A Comparison of the Distribution of Significant Changes ($\underline{p} <.05$) in Favorable (Positive) or Unfavorable (Negative) Directions to the Distribution of Highly Favorable (Greater than or Equal to 5.5) and Unfavorable (Less than or equal to 2.5) Mean Ratings on the Final Attitude Assessment of Original and Replacement Assessment of Original and Replacement Volunteers in the Colombia ETV Project, as a Function of Concept Studied.

(Based on Tables 9.3 and 9.4 of Comstock & Maccoby, 1966, Research Report 9. Reproduced by permission.)

	Original Volunteers		Replacement Volunteers	
Concept	Fraction Sign. Neg. Change	Fraction of Extremes Highly Favorable	Fraction Sign. Neg. Change	Fraction of Extremes Highly Favorable
Colombian Government	5/6	0/11	12/12	0/4
Colombian Reliability	0/0	0/0	2/2	0/1
Colombian Interest in Education	1/2	1/1	8/8	0/0
Colombian Educational Methods	1/2	0/2	8/8	0/1
Colombian Classrooms	0/2	0/1	7/7	0/1
Television Teacher	9/9	1/1	17/17	4/4
Classroom Teacher	0/0	0/0	3/3	0/0
Peace Corps	4/4	5/5	4/4	14/14
Peace Corps Staff	0/1	0/0	12/13	7/7

Table 6-8 (Cont.)

	Original Volunteers		Replacement Volunteers	
Concept	Fraction Sign. Neg. Change	Fraction of Extremes Highly Favorable	Fraction Sign. Neg. Change	Fraction of Extremes Highly Favorable
Peace Corps ETV Project	5/5	6/6	4/4	11/11
Peace Corps ETV Shows	0/0	2/2	6/6	4/4
Volunteer Living Allowance	0/2	1/1	1/1	2/2
Peace Corps Volunteer	1/1	2/2	6/6	12/12
Myself	2/3	4/4	2/2	7/7
Teaching School	5/5	4/4	1/1	12/12
Instructional TV in Schools	5/5	2/2	1/1	7/7
Sum of Numerators	38	28	94	80
Sum of Denominators	47	42	95	87
Maximum Possible Sum	336	336	336	336

Note: Fraction of extremes highly favorable is the number of highly favorable mean ratings divided by the number highly favorable plus the number highly unfavorable.

with *Peace Corps ETV Project*, the two groups combined had 9 significant negative changes, 0 significant positive changes, 17 highly favorable mean ratings, and 0 highly unfavorable mean ratings. Scores on the 21 scales for this concept were generally high (the original report shows that only 10% of the final mean scores for the two groups were below 4.0), but the same scales did not customarily yield both significant negative changes and highly favorable mean scores. Examination of Comstock and Maccoby's tables shows that for the *Peace Corps ETV Project* concept, only three of the nine significant negative changes were on scales which also exhibited highly favorable mean scores.

The information from Table 6-8 suggests that Comstock et al. were too pessimistic in saying (1966, Research Report 9, p. 127), "We do not consider such negative shifts in regard to these important aspects of the Volunteer's working environment as desirable. There is an obvious risk of loss of morale and of lowered effectiveness." Comstock and his co-workers simply have not given adequate attention to the relative incidence of highly favorable mean ratings and highly unfavorable means. Furthermore, they have concluded too quickly that the greater incidence of significant negative changes in the replacement Volunteers, compared with the original Volunteers, shows that negative changes are common early in service overseas.

Community Development Work by Volunteers

Special Problems. Community development has the reputation of being the most difficult of the tasks assigned to Peace Corps Volunteers because of the vagueness of the duties and the complete dependence of the Volunteer upon the good will of the people he hopes to encourage to build a school, organize a cooperative, or perform similar activity.

Qualman (1969) has reported that Volunteers assigned to community development and sent home from overseas prematurely were more likely to have been terminated for poor job performance or for adjustment problems than were premature returnees with other duties. Urban community developers who were prematurely terminated suffered from poor job performance or adjustment problems in 61% of the cases studied; other community developers had these problems in 49% of the cases; and 49% of the Volunteers assigned to education in the cases studied were terminated for poor job performance or adjustment problems. These problems resulted in the premature return of 52% of Volunteers assigned to health in the cases studied, while the likelihood of premature return due to these problems ranged from 43% to 35% for Volunteers in other categories of service.

A related difficulty is the problem of measuring accomplishment in community development work. In view of Ashabranner's (1971) strong critique of community development work in the Peace Corps as frequently ineffective because of lack of job definition for the Volunteer, we do not personally accept Haigh's (1963) advocacy of people-centered rather than project-centered goals. If one did accept Haigh's position, one might end up with reports that 21 PCVs in a community development project in Brazil had 10 to 50 Brazilian "good friends" or that eight PCVs in British Honduras reported a total of 26,300 secondary contacts and 2,200 primary contacts (Peace Corps, Research Division, 1968b, p. 11). Moving from the topic of personal contact to the effects of personal contact, we find the same report saying that a survey of 2,250 Filipinos in communities where Volunteers had served and subsequently left showed that 92% read a newspaper or listened to a radio once in two days, compared to 47% doing so in communities where the Peace Corps had not served. In addition, 51% of the Peace Corps communities had undertaken community development projects and 75% "felt close" to Americans.

One might choose to say that all the activities or results mentioned as occurring in these three countries were people-centered. Or one might exclude Filipinos' undertaking of community development projects as possibly too focused upon concrete results such as building a road or increasing the political influence of the average citizen. The latter conclusion would suggest the conclusion that people-centered Peace Corps efforts should influence only individuals, not groups of people as groups.

This last inference is an unhappy one for us to make, and we think it a distortion of Haigh's views. Peace Corps Volunteers do affect individuals in ways such as those just outlined, but it seems reasonable to accept two kinds of group activity in community development: (1) task-oriented groups such as groups to raise money for and construct a school and (2) interpersonally-focused groups which deal with the members rather than external problems. The latter groups would be considered people-centered in Haigh's terms; the former might be project-centered or both project and people-centered, depending on whether or not construction of a school is done with attention to students' psychological and physical needs and whether the group involved in the construction project treats itself as a tool or is considerate of needs of its members which may sometimes conflict with immediate steps in school construction. It is difficult to clarify the project-centered versus people-centered distinction, and this clarification may require some arbitrary construction of dividing lines. Yet the commitment of the Peace Corps to what might almost be called spiritual values requires that the distinction be made objectively in order to permit evaluation of the effects of both kinds of projects.

At the present time the nearest approach to such an objectification is the classification (Peace Corps, Research Division, 1968b) of PC community development activities and accomplishments into six categories: (1) the extent of person-to-person contact, (2) the effects of personal contact, (3) development of local representative bodies, (4) development of interest groups, (5) construction projects, and (6) the School Partnership Program. The first four categories seem to represent people-centered activities almost exclusively. Further research appears to be needed on the psychological aspects of the last two categories.

Activities and Accomplishments. Community development work has been particularly common in Latin America, possibly due to Frank Mankiewicz's (1964) interest noted earlier. Mankiewicz is the former Regional Director of Latin American Programs for the Peace Corps. The prototype of a rural community development program is Peru III, which consisted of approximately 60 Volunteers assigned to the Peruvian National Plan for Integrating the Aboriginal Population(PNIPA is the abbreviation, based on the Spanish title for the organization). Peru III was studied intensively by the Cornell Peru Project of the Cornell University Department of Anthropology (Dobyns, Doughty, & Holmberg, 1966). Separate PNIPA supervision occurred for four programs, one in the Department of Ancash, one in the Department of Puno (the program called Puno-Tambopata), and one each in the cities of Cuzco and Ayacucho. The title PNIPA defines this project as a community development one, as do the following measures of accomplishment established by Dobyns et al.: Shifts in a community's social structure scale (0 to 100 points possible); proportion of existing institutions strengthened or led into new fields; and number of institutions founded with the aid of a Volunteer.

We have tried to determine the nature of the project in still another way, tallying the kinds of activities engaged in by the Volunteers discussed by Dobyns et al. Information for 46 Volunteers was found, with most persons having two or more kinds of activity. The activities of 22 people seemed obviously connected with community development; 20 people were involved in education, 16 in agriculture, 12 in health, and 12 in home economics. Several activities such as librarianship, engaged in by three or fewer Volunteers, are omitted in this tally. This analysis is highly subjective, but other investigators would presumably agree that the five main activities listed were indeed predominant.

It should be noted that community development may be less a matter of duty assignment than a by-product of a major assignment. For example, one girl's basic responsibility was as a home demonstration agent and a helper in a medical clinic. However, when she learned that children in the Wiash section of Vicos were afraid to travel to the Vicos school, she volunteered to teach a sectional school at Wiash and helped the community to obtain a school building -- a donated and refurbished house -- and she became a very effective teacher there (Dobyns et al, 1966, pp. 71-72).

Some idea of the scope of community development activities in Peru III may be provided by synopses of three accomplishments and one total failure:

(1) Agatha's (a psuedonym) first Peace Corps work left her supervisors feeling she was scatterbrained. She was disciplined for abusing Peace Corps vacation rules. Finally, she was assigned to the hospital in the town of Carhuaz in the Department of Ancash. She found the physical facilities inadequate there and began to organize fundraising activities which led to the installation of showers, tubs, toilets, and an electric hot water heater which were used by hospital staff and patients and (for a small fee) by local residents as well. She also set up a beauty parlor, gave permanent waves her-

self, and taught local girls to do the same. She organized the distribution of vitamin and iron pills in three schools where anemia was prevalent. Then she served as the key board member for a previously defunct Catholic welfare agency in Carhuaz, helping to draw up a list of needy families and arranging for distribution of food and clothing to them. In addition, she taught English in the fourth and fifth grades and organized dancing classes (Dobyns et al, 1966, pp. 48-50).

(2) Chancos was a manor owned by the Public Charity Society of Huaraz and leased by the same man for the last 10 years. Sixty-three individuals worked in near bondage at Chancos. In addition to farm land, Chancos contained a hotel and thermal baths, facilities which had fallen into disrepair. Peace Corps Volunteers in nearby Vicos wanted the Chancos "serfs" to be freed and convinced the people of Vicos, who had been serfs themselves until about 1951, to help buy Chancos. The Washington headquarters of the Peace Corps helped to find a foundation to loan money for this purpose. One complication was that leaders in Huaraz, where the Public Charity Society was based, hesitated to sell, placing in effect two informal restrictions on the sale. Complaints about the absence of Peace Corps assistance in Huaraz led to transfer of a Peace Corps couple to that city. Statements of interest in obtaining an airport for Huaraz led to construction of an airport! The formal restrictions included having the town of Vicos take over the operation of the Chancos thermal bath and hotel facilities, repairing them and operating them for five years under the supervision of Peace Corps Volunteers. Furthermore, Vicos was to invest almost $19,000 in the repair process.

How could the Peace Corps contribute to the establishment of an airport at Huaraz? Two Volunteers, one of whom was an engineer, surveyed all proposed sites for the airport and made a report to the local chamber of commerce. Volunteers helped to raise funds by acting as go-between for the Huaraz leadership and the U.S. Agency for International Development (AID) mission in Lima. The Peace Corps Director in Peru, the Cornell Peru Project Coordinator, and the U.S. Air Attache also gave their support. The degree of assistance given by non-Peace Corps agencies was unusually large but is a demonstration that the Peace Corps does receive help from AID and similar groups.

With the purchase of Chancos, the Vicosinos and the Volunteers in the area began to repair the electrical system of the hotel and tear down unusable buildings as well as replace roof beams and roof tiles in the buildings needing repair. Over 400 hours of free work were provided by Vicos citizens, after which they worked for regular wages. The Volunteers took considerable leadership in the project, both in physical labor such as concrete mixing, pressed-brick ram operation, and interior decoration, and in the operation of the hotel, including training a staff and arranging for tourist groups to schedule stays at the hotel. Ultimately the repair and operation task proved too great for the Volunteers and the Vicosinos, however, partly because the enthusiasm of some Volunteers was greater than their tact and partly because of limited rebyilding funds and a construction decision which proved not to provide proper protection for the hotel walls. Therefore, a new leaseholder eventually took responsibility for the hotel and thermal baths. Fortunately, the former Chancos serfs remained free; indeed they had already merged themselves governmentally with the people of Vicos (Dobyns et al., 1966, pp. 51-59 and 83-86).

(3) One of the many achievements of Peru III's most successful Volunteer was the establishment of a textile cooperative in Chijnaya, a town largely founded under the leadership of this Volunteer by moving the inhabitants of a

flood-stricken community to a manor formerly owned by the Catholic Church (Dobyns et al., 1966, pp. 186-190). This Volunteer, named Perry (a pseudonym), in Dobyns' report, first encouraged the women of Chijnaya to begin spinning alpaca wool for sale to weavers. Then the women began making a shepherd's jacket for sale through an AID crafts program. Next, Perry encouraged some children to sew multicolored tapestries showing local scenes. Eventually 200 children began to do this embroidery, and Chijnaya products began to be sold both in Lima and in the United States. Almost $10,000 was earned in these ventures in the first two years of Chijnaya's existence. The tapestries have been carried in stock for sale at the Brooklyn Museum and the first Peace Corps Director, R. Sargent Shriver, and the Peruvian Ambassador to the U. S., Dr. Celso Pastor, co-sponsored an exhibition of these tapestries in Washington, D. C., in July 1965.

(4) Dobyns et al. (1966, p. 75) mention one Volunteer who was promoting the installation of hot showers for the school teachers and students of Vicos. The project began well, with contributions of lumber and bricks by the Vicos community council and cement by the Cornell Peru Project. Labor was volunteered by those who would use the showers, and the floors were leveled and foundations set. Then the PC Volunteer tired of his part in the project; when he stopped working, so did others. So the showers were never completed, and the remaining building materials were ruined and the tools stolen.

One assessment of the overall accomplishments of Peru III is Dobyns et al.'s (1966, pp. 229-233) report that in two years of Peace Corps service to 15 Peruvian communities, these communities averaged a 1.67 point increase on the social structure scale per year, in spite of the fact that not all the communities received even one PCV's full-time service for the two years. In contrast, five rural Peruvian communities originally selected as control communities and untouched by direct PCV activity,averaged an increase of only 0.6 scale points. Dobyns et al. then excluded seven experimental communities, three because they were too large to be comparable to control communities and because the scale of social structure was more suited to small communities,and four because they were provincial or district capitals which had no counterparts among control areas or had little PCV activity. Two district capitals were also removed from the control group. This post hoc modification of the research design led to results which must be viewed with caution, since they are not clearly protected from bias by the investigators. The mean increase in social structure for eight experimental communities became 2.7 points per year, compared with 0.5 per year for three remaining control communities.

As part of the Cornell Peru project, Andrews (1965) has reported an extensive anthropological study of Paucartambo, one of the five control communities just mentioned. Paucartambo is a highland Peruvian village, located slightly north and east of Lima at about 10,000 feet elevation. The population of the district of Paucartambo was 6,720 at the time of Andrews' research, with 1,731 living in the village proper. Before the Peace Corps came into existence, Paucartambo was studied by the Cornell Peru Project because of the activities there of the Junin Program, a regional development program sponsored by PNIPA, which was described earlier as a Peruvian national government unit intended to integrate the Indian population of Peru into the country's social and economic life. Since the Junin program existed from 1959 to 1963 (Andrews, 1965, p. 87 & p. 97), use of Paucartambo as a control community means that the Dobyns et al. (1966) comparison of changes in social structure from 1962 to 1964 of Peace Corps and non-Peace Corps communities is to some extent a measure of relative effectiveness of the Peace Corps in certain villages as compared to this Peruvian governmental program in at least one of the control villages. No quantitative comparison of consequences seems possible, but we note with interest that some of the same problems are reported with the Junín Program as with Peace Corps projects in Peru or elsewhere.

Junín representatives were often limited to giving technical advice or sharply limited amounts of goods such as fungicide for spraying potato plants. Farmers were often doubtful of the value of new products introduced by Junín personnel, refusing to use the fungicide spray because they thought it changed the taste of the potatoes. There was a shortage of certain kinds of required personnel in this program; certain Junín employees performed poorly in Paucartambo; and conflicts arose between relatively well-to-do and less well-to-do farmers as to the degree of assistance each group should get in the light of the limited resources available.

Andrews (1965, pp. 129-130) compiled a list of 72 different needs of Paucartambo and reported on the frequency and intensity of mention of these needs by village residents. The number of residents who responded is apparently unspecified, but judging from the total number of points assigned, perhaps one hundred villagers participated in the report. An attempt to classify the 20 most frequent needs into categories suggests that the three dominant areas of concern in Paucartambo were education, civic development (including road or street construction), and agriculture, listed in order, with education being the greatest need. McEwen (1969, p. 306b) later used these categories in a study performed in six Bolivian communities where the Peace Corps had Volunteers. In contrast to the Paucartambo findings, McEwen found that only one Bolivian town in his investigation placed civic needs among the top three; two towns showed both agricultural and educational needs in the top three.

Overall totals for the six Bolivian communities indicate that an improved water supply was their greatest need, with electricity and improved health measures or facilities following in that order. Despite these differences in the two studies, it is apparent that the total arrays of needs in Paucartambo, Peru, and the Bolivian communities under discussion are very similar.

Another indication of the amount of accomplishment in Peace Corps community development projects comes from Cregger (1963), who discussed PC activities in Colombia from September 1, 1961 to August 1963. Twenty-nine rural roads were completed and 55 roads started. Two hundred miles of rural roads were built. Forty-four rural schools totalling 65 classrooms were completed, and 55 schools started. Twenty-seven aqueducts were completed and 29 started, typically of 2-inch diameter pipe. Four health centers were completed and 13 centers started. Fourteen doctors and 11 nurses were obtained for the communities served by the PCVs. Over 1,000 latrines were installed as a consequence of latrine programs in 33 different areas. More than 100 sports fields were constructed; 21 sports leagues were organized. Twenty-six cooperatives were established or strengthened. These accomplishments, plus many more, are attributed to two groups of PCVs, one group of 62 which served for the entire period and another of unstated size which served for about a year.

The accomplishments reported in Peru, at least, were largely dependent upon the joint efforts of Peace Corps Volunteers and other people. Among 39 social structure scale increases analyzed in which Peace Corps Volunteers were involved (Dobyns et al., 1966, pp. 239-240), only 4 were accomplished by Volunteers alone. Twenty-one involved the aid both of the Peruvian government and the local community, and 14 required one or more of the following sources of assistance: Local community action, Roman Catholic Church, Peruvian government, and U. S. AID Special Projects Program assistance. A similar trend exists in accounting for the 31 scale increases in which a Peruvian government agency was involved. Only 3 involved the Peruvian government alone, 3 also required local community action, 4 required the assistance of both the Roman Catholic Church and Peace Corps Volunteers, and 21 have been accounted for earlier in this paragraph.

Just as cooperation with other groups proved a usual accompaniment of progress, so could it be predicted that Volunteers working with individual clients or families, as in clinics or agricultural extension programs, would accomplish less in the building of new institutions than would Volunteers working in larger groups, as in classroom teaching, pupil feeding programs, or as classroom advisors. This tendency and a related one for Volunteers who worked with high numbers of Peruvians (65 to 1,460) to strengthen or found more institutions than Volunteers who dealt with small numbers of Peruvians (5 to 60)are documented by Dobyns et al. (1966, pp. 278-287).

A further factor in the success of the PCVs in Peru seems to have been their reassignment in the event of difficulty in their first place of duty. Of 17 persons transferred after failing to strengthen their first organization, 12 were successful in strengthening the next institution to which they were assigned (Dobyns et al, 1966, p. 246). There is also a slight but non-significant indication that Volunteers who served in only one institution were less successful than those changed from one assignment to another, possibly as a consequence of lacking an opportunity to start over as the 17 just mentioned did.

Peace Corps Work with Cooperatives. One previously mentioned aspect of

Peace Corps community development work, establishment or support of cooperatives, has received almost no research attention despite some anecdotal mention, as in Dobyns et al. (1966). Cooperative programs, particularly those Peace Corps projects which for a few years were administered by the Cooperative League of the United States of America, have been described globally in a conference whose participants were returned PCVs (Cooperative League of the U.S.A., 1966). Cooperative programs have also been described in some detail in Peace Corps evaluation reports not available to the general reader since they have been the basis for operating decisions. The nearest item to a completed research study of Peace Corps cooperatives remains in draft form, so it cannot be formally cited. That draft was complimentary to some Peace Corps cooperative activities, particularly in Ecuador where the currency was stable, where AID had planned and given 80% financing to a Credit Union Federation, and where Volunteers were well-trained for credit union work. In other countries this draft reported a great deal of impractical activity due to over-commitment to cooperatives in situations where economic conditions and personnel were inappropriate to them.

This indication of special success of Peace Corps activity in Ecuadorian cooperatives is supported by the Peace Corps Research Division (1968b) summaries of achievement in different endeavors. Volunteers are reported to have helped to establish most of the cooperatives then operative in Ecuador, the movement consisting of 156 cooperatives, 22,000 members, $1,000,000 in savings, and $3,000,000 in loans. No other country is reported to have benefited as greatly from this sort of Peace Corps work. However, both this source and McLaughlin (1966) describe other successes with cooperatives, as in Guatemala where two Volunteers organized a 40-member rabbit raising cooperative which in one year made sales of $23,300 in meat and fur products, showing a very substantial book profit on members' capital of $13,400, and paying out $1,000 in dividends.

In view of some indications above of limited success of Peace Corps cooperative activities, we note with interest some evidence on Volunteers' perception of their effectiveness in cooperative development. Napolitano (1966) has compared 190 Peace Corps Volunteers who had been working with cooperatives to about 4,000 who had not. In Close-of-Service Questionnaires, the former had consistently higher percentages reporting high morale as Volunteers, high self-assessed accomplishment, and high degrees of fluency in the local language.

Further Background Research for Aiding Peace Corps Community Development Work. McEwen (1969) has performed a substantial anthropological study of the social and political organization of six Bolivian communities, paying special attention to the potential for development in each. Different communities or pairs of communities are treated in different parts of the volume, with the report being narrative and anecdotal but reflecting information gathered with an extensive community study outline. McEwen interprets these data in terms of a model of influences affecting community action on community problems. He suggests six items which must be considered in evaluating whether a proposed solution to a community problem is appropriate:

"What is the purpose, or value, of the solution?"

"What procedures, or activities, does it entail?"

"How many skills of what kinds are needed?"

"What kind of organization is involved?"

"When do the procedures and organization have to come into play (weekly, yearly, every day)?"

"How much space and time are needed?" (McEwen, 1969, p. 321).

One supposes that the question of financial cost is taken as a self-evident preamble to this list.

Though this particular study has little to say about Peace Corps activities in the six communities concerned, McEwen closes his report with three pieces of advice to the Corps. First of all, Volunteers should perform community studies and give increased attention to planning and analysis in order to improve their service to communities. Second, the Peace Corps should concentrate its efforts on certain limited problems such as tuberculosis control or literacy training rather than dissipating its energies on a wide variety of problems, each being only partially solved or solved only for a single community. Third, though the concentration of effort upon specific problem areas requires substantial technical skills, Peace Corps Volunteers must remember that many technical aid projects have failed because social science understanding or good interpersonal relations failed to accompany those projects.

Peace Corps Medical Projects

Tuberculosis case identification and treatment. The Department of Epidemiology of the University of North Carolina (1966, 1967); Daniel, 1968; Omran, McEwen, and Zaki (1967); and Keck and St. John (1968) have reported on Peace Corps programs of tuberculosis in Malawi (first two studies mentioned) and Bolivia (the other three studies). All programs included treatment of active cases and preventive measures for non-infected persons except in the program reported by Omran et al. Identification programs involved mass testing using some form of skin test or X-rays, with some retesting with the same sort of test, plus follow-up studies consisting of sputum tests, X-ray examinations, and general medical examinations in order to exclude from treatment the relatively large (see latter part of this section) numbers of persons with positive skin tests but without active tuberculosis.

Some case-finding was done as a supplement to the mass skin-testing programs: If a household member proved to have tuberculosis or a positive skin reaction, other members of the household were then tested, assuming they had not been reached before. A major preventive measure was BCG vaccine, provided for all skin-test negative persons in the Keck and St. John study. Treatment ordinarily occurred in the home, in view of the shortage of hospitals in the localities of the patients and their financial circumstances. The principal treatment was the ingestion of Isoniazid (INH) and/or Thiacetazone pills according to a prescribed schedule.

We now examine some data regarding the various aspects of the programs just mentioned. The most frequently used skin tests employed the Mantoux intradermal method in which .1 milliliters of solution containing an antigen was applied in the skin of one arm. The most common antigen was PPD-S, but Omran et al. (1967, p. 24) gave four simultaneous and different tests to almost every one of the 3,229 persons tested except very young children: PPD-S PPD-A or PPD-G or PPD-F, a tuberculin tine test, and histoplasmin. All but that last mentioned used a dose of 5TU (toxic units); histoplasmin dosage is not mentioned. PPD-A, PPD-G, and PPD-F are non-specific antigens and receive some discussion later.

The tuberculin tine test (Omran et al., 1967, pp. 38-47) was being investigated as a substitute for use of the Mantoux method because the latter requires freshly prepared solutions, refrigeration, medically trained personnel, and sterilization of syringes and needles (mass surveys usually preclude the expense of using disposable needles and syringes). The tuberculin tine test employs a stainless steel disc held by a plastic handle. On the disc are four triangular shaped tines which are 2 mm. long and about 4 mm. apart. Dip-drying placed a 400% concentration of U. S. Standard Old Tuberculin on the tines. The units are sterilized, disposable, and usable by nonmedical personnel. The histoplasmin test was conducted to identify cases of a chronic lung disease (histoplasmosis) easily confused with tuberculosis.

The size of each test reaction was read as the transverse diameter of induration (hardening), with data reported according to several standards in some cases. A Spearman rho of 0.97 has been reported for reaction size measurements by two Volunteers (Department of Epidemiology, 1966, p. 17c). A 5 mm. reaction has historically been regarded as the minimum size of a positive reaction. Keck and St. John (1968, p. 14) required 5 mm. or larger for children from 0 to 5 years of age and a 10 mm. or greater reaction for all other persons. The most complete University of North Carolina project report (Department of Epidemiology, 1966, p. 9) favored a 12 mm. minimum but reported data for both 5 and 12 mm. minima. Omran et al. (1967, p. 47) called 5-9 mm. positive, 10-19 definitely positive, and 20 mm. or more strongly positive. Table 6-9 makes as close a comparison as possible of information from the four studies, showing population sizes, numbers tested and read, percentages of positive reactions, numbers of active cases known or identified,

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Insert Table 6-9 about here

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and rates of active cases estimated for the population. Note that some cases

Table 6-9

Summary of Tuberculosis Testing and Case Finding By Peace Corps Projects

Investigator	Country	Population of Region Studied	No. TB Skin Tests Read	% Positive Reactions			No. Active Cases Known or Found	Rate of Active Cases
				5 mm. or more	10 mm. or more	12 mm. or more		
Keck & St. John	Bolivia	29,591	24,682	48.9	N.R.[a]	N.R.[a]	806	2.7/1,000[b]
Omran	Bolivia	9,700 plus clinic patients	3,229 including 303 in clinics	49.8	42.6	N.R.[a]	N.R.[a]	19 to 40/1,000[c]
Dept. Epidemiology, U. of No. Carolina (1966)	Malawi	30,000	ca. 25,500	N.R.[a]	N.R.[a]	N.R.[a]	371	14.5/1,000
Dept. Epidemiology, U. of No. Carolina (1967)	Malawi (Zombo District)	1,856	1,547	17 to 82, depending on age	N.R.[a]	1 to 68, depending on age	31	16.7/1,000[b]
U.S.P.H.S. (cited by U. No. Carolina)	U. S.	N.R.[a]	N.R.[a]	N.R.[a]	N.R.[a]	N.R.[a]	N.R.[a]	1.7/1,000[b]

[a] N.R. = Not Reported

[b] Rate obtained by dividing known number of active cases by total population

[c] Rate obtained by dividing percentage of positive sputum tests by total number of sputum tests

from the Omran et al. investigation, begun in August 1964 and completed about July 1967, may appear in the Keck and St. John study, summarizing work done between March 1967 and April 1968. Both studies were performed in Bolivia, with the former covering seven communities dispersed across most of the country and the latter being restricted to the Yungas (mountain jungle) region on the eastern slopes of the Andes. One town, Coroico, was included in both studies, presumably with different investigators and testings but many of the same persons were examined by the two projects. The Omran et al. investigation was almost exclusively restricted to the identification of disease, including a variety of disorders in addition to tuberculosis. It also paid a good deal of attention to questions of alternate methods of identification and their relative efficiency. The Keck and St. John research went beyond identification to problems of tuberculosis control. Note that the first University of North Carolina report (Department of Epidemiology, 1966) provided sketchy data but for more than 15 times as many people as the 1967 report, which presumably includes some data from the earlier article.

Table 6-9 shows that on the order of 80% of the population in the regions studied were given Mantoux skin tests and had reactions read in the studies (Keck & St. John, 1968; Department of Epidemiology, 1966) attempting to reach the entire population under investigation. The Omran et al. study, designed to reach several hundred persons in several communities, yielded data from about 30% of the population of those communities. The two Bolivian studies showed almost 50% positive reactions when a criterion of 5 mm. was used as a minimum. Comparable data are not available from the Malawi study conducted by the University of North Carolina, but the percentage ranged from 17 to 82 for a 5 mm. criterion and from 1 to 68 for 12 mm., depending on the age of the person tested.

The clinical meaning of a positive tubercular reaction is somewhat indefinite, with the major University of North Carolina project (Department of Epidemiology, 1967, p. 10) taking the 12 mm. reaction as a likely indicator of infection with tubercle bacilli but requiring either X-ray evidence of the disease, a positive sputum test, or a positive (6 mm. or greater) skin test reaction in children of five years or younger as evidence of active tuberculosis. Keck and St. John (1968, p. 109) found that 2.4% of the persons whose skin reactions were read and who also received sputum tests could be diagnosed as having tuberculosis. The total number of positive diagnoses, using X-rays and other medical examinations as well, included 6.7% of the persons with positive skin reactions. Data from Malawi are less precise but appear comparable. By no means had all of the available such persons been examined. Omran et al. present no information on this point.

The proportion of positive skin reactions and of active tuberculosis increases with age until about 55 years in one study (Department of Epidemiology, 1967, Fig. 5 and Table 7) and until 20 years in another (Omran et al., 1967, Figs. 8 and 9). Variable peaks for the skin reaction curve appeared in different communities of Keck and St. John's study.

The search for active tuberculosis cases was also conducted by skin retesting tuberculin negatives and newcomers (Department of Epidemiology, 1967, p. 17),and by administering multiple sputum tests to patients with tuberculosis symptoms who did not excrete tubercule bacilli in their first sputum test (Daniel, 1968, p. 7, in an early report from the Keck & St. John project). Daniel believes that systematic multiple sputum tests would have identified active tuberculosis in 16.9% of tuberculin test positive persons and 8.3% of the total population in the Yungas region of Bolivia under study. Comparison of this figure to the rate of active cases actually known shows a great discrepancy, occasioned because Daniel presumes that only 40% of the active cases are detected by a single sputum smear. Daniel notes that his estimate is much higher than the 2.5% prevalence of TB estimated by the Bolivian public health ministry.

One means of case finding was to examine all members of households in which at least one person showed a positive skin reaction. In the Zomba, Malawi study (Department of Epidemiology, 1967, p. 14) six households contained 15 of the 31 active or suspicious tuberculosis cases discovered. In Bolivia, certain children under five and any contacts of active tuberculosis patients were to receive INH as a preventive measure. Keck and St. John (1968, pp. 111-112) reported that almost 62% of the children under five who had positive skin reactions began taking INH, of whom almost 39% abandoned therapy. About 40% of the contacts of patients began INH prophylaxis, but 43% dropped it prematurely. These figures are much more dismal than the preliminary report on the same project (Daniel, 1968).

In Zomba, Malawi, 62 of the 70 active or suspicious cases received adequate supervision, with 17 having completed therapy, 43 still being under treatment at the end of therapy, and 2 being shown not to require treatment. Of 26 active cases, 19 had improved, one showed no change, and the state of six were unknown. The treatment period was not stated but cannot have exceeded 15 months for anyone whose data were reported. In an earlier study (Department of Epidemiology, 1966, p. 8) in Malawi, 371 active cases and 755 suspicious cases were identified and placed on drug therapy; but follow-up data were not reported. In the larger Bolivian study, Keck and St. John (1968, p. 110) found that 764 of the 806 diagnosed cases began taking Thiacetazone. No patient could possibly have been in therapy for longer than 13 months, and 213 of the persons under treatment had abandoned it, as evidenced by not having been seen or heard from for at least two months at the end of the study. No report on the effects of therapy in Bolivia was provided. Let us assume, for the basis of the discussion to follow, that the 554 persons continuing the treatment were cured. In addition, some unknown proportion, p_1 , of the 11,485 persons given BCG in the Keck and St. John (1968, p. 117) study were protected from contracting tuberculosis for a fixed but unknown period of time, as were p_2 (also unknown) of the 418 persons who continued INH prophylaxis.

Daniel (1968, p. 4 and p. 11) has indicated that some Peace Corps Volunteers and other observers questioned whether a massive BCG vaccination program of everyone available in a given region of Bolivia would not have been more efficient than the combined diagnosis, treatment, and prevention program actually employed. Daniel objects to the proposed alternative on three grounds: The unknown effectiveness of BCG, the need for roving bands of highly trained technicians in the BCG mass program, and the failure to treat already sick patients, thus failing both to relieve their suffering and to reduce the infectious reservoir. All three of these issues could be entered into a cost versus benefits analysis. However, we will illustrate the cost-benefits approach when only the first objection is considered.

Let us define an efficiency factor, EFF, as the ratio of number of persons who could be vaccinated with BCG to those who could be given skin tests and follow-up procedures for the same cost in the two procedures. We see no reason to suppose EFF could be less than one; possibly it could be much larger, perhaps equal to three. Since 24,689 were skin-tested in the Keck and St. John study, we presume that 29,581 (EFF) could be given BCG vaccine and thus 29,581 (EFF) p_1 could be protected from tuberculosis.

For the combined method to give more protection overall than the vaccination method, $554 + 11{,}485\underline{p}_1 + 418\underline{p}_2$ must exceed $29{,}581$ (*EFF*) $\underline{p}_1$, based on the information in the three paragraphs above. Let us assume $\underline{p}_2 = 1.00$, making as favorable a case as possible for the combined method. Then $972 + 11{,}485\underline{p}_1$ must exceed $29{,}581$ (*EFF*)$\underline{p}_1$. Solving this inequality when *EFF* = 1 yields $\underline{p}_1 = .054$. Solving it when *EFF* = 3 yields $\underline{p}_1 = .013$. These two $\underline{p}_1$ values are minima for superiority of the combined program: With *EFF* = 1 any $\underline{p}_1$ greater than .054 makes the mass inoculation program more effective; with *EFF* = 3 any $\underline{p}_1$ greater than .013 makes the mass inoculation program more effective.

The foregoing remarks are not intended to provide a definitive solution for the cost-benefits problem. Even if *EFF*, $\underline{p}_1$, and $\underline{p}_2$ were known, this approach would have weaknesses. It assumes equal importance to prevention and to cure. Would it be better to weight a cure by two or some other number? Could some justification for the exact weighting be derived from a theory about the likelihood of infection from a person having tuberculosis? Does the *EFF* factor actually take into account the problem Daniel mentioned of needing non-Peace Corps personnel to conduct a vaccination program? Additional questions can be raised, but we believe our computational examples have at least made it plain that data gathered in the Keck and St. John project would be useful in making a cost-benefits analysis of whether to use a mass vaccination program or a combination diagnosis, prophylaxis, and treatment program in future tuberculosis control projects. It would seem unwise to make future decisions subjectively, without careful mathematical analysis.

We now turn to six other health topics studied under Peace Corps auspices.

Histoplasmin tests. Omran et al. (1967) have already been noted to have administered histoplasmin tests together with tuberculin skin tests in Bolivia.

Rates of positive reaction by communities ranged from 0.6% in Penas to 52% in Reyes, the latter being a tropical environment where histoplasmosis would be particularly likely. Figures 14 and 15 of Omran et al. indicate that in two communities, at least, the probability of infection increased for the first 15 years or more of life. No tests for clinical histoplasmosis were performed.

Determination of incidence of parasitic infection. Omran et al. (1967, pp. 101-117) report that stool specimens from 2,342 persons in Bolivia were examined for 14 intestinal parasites. There were more than 100 positive cases each of four different parasites, with multiple infection being common: Two parasites transmitted by the fecal-oral route, Ascaris and Trichuris, had 1,114 and 1,248 cases, respectively; two forms of hookworm infection transmitted through contact with the soil, Necator Americana and Strongyloides, had 581 and 198 cases,respectively. Among 2,437 blood films prepared in the same study, no example of any of the following five blood parasites was found: Malaria, leishmania, trypanosoma, filaria, and borrelia. Omran et al. (1967, pp. 200-202) in a survey of research on malaria in Bolivia, note that there were only 73 malaria cases reported in 1964 for the entire country of Bolivia.

Testing for salmonella, rickettsia, brucella, and treponema. Omran et al. performed serological tests on 2,417 persons as a means of checking on the relative incidence of salmonella typhi and paratyphi, typhus and other rickettsial diseases, brucella abortus (undulant fever), and treponema pallidum (syphilis). Evidence of past typhoid infection (a positive Widal agglutination test of H antibodies with 1/40 to 1/60 dilution of antigens) ranged from 46% to 81% in five communities surveyed, dropping to 27% to 36% in two communities of 12,000 elevation or higher and one of two high valley communities of 7,500 ft. elevation or higher. More recent typhoid infection was indicated by the corresponding test for O antibodies, yielding positive

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results in 29% or less of the persons tested in five communities tested but being positive for 60% of those tested in Coroico and Coroico environs and 87% in Sorata. Indications of beneficial effects of good hygenic care came from a school with 81% positive H and only 6% positive O agglutination, the school having the reputation for a superior food supply and sanitary conditions. Widal tests for two H antibodies associated with past paratyphoid infection were less positive than for typhoid: From 2% to 26% of the persons examined in the community showed positive reactions.

Tests for typhus and other rickettsial diseases were made with various strains of the Bacillus proteus. Unfortunately this test, the Weil-Fix test, is sensitive but relatively nonspecific, making it difficult to know what is identified with a positive Weil-Fix reaction. Since one of the antigens (OX-19) yielded 79% or higher positive reactions in each community, it is presumed that rickettsial infections of some kind were common throughout the regions tested. There was some indication of a disease related to Rocky Mountain spotted fever and Latin American tick fever, with about 20% of the entire study population exhibiting the joint syndrome indicative of past infection of that kind. About one-seventh as many persons gave indications of *scrub typhus* infection, a disorder hitherto known only to exist in the Orient and Australia.

No community showed more than 5% positive reactions to *brucella abortus* antigens. Strong reactions to the syphilis test were also relatively small, ranging from 1 to 12% in the eight communities studied. Weak reactions were disregarded as being possible consequences of a wide variety of diseases prevalent in Bolivia.

Blood grouping. Blood typing of 2,505 persons in a Peace Corps study by Omran et al. (1967, pp. 160-162 and p. 187) provides an interesting ethnic item. In the two Altiplano (over 12,000 feet elevation) communities populated solely by Indians, out of 574 persons tested, 573 had O-Rh positive blood groupings. No community studied had less than 74% O-Rh positive, with A-Rh positive sometimes being as high as 19% and B-Rh positive also having substantial representation in some communities. The high representation of O blood types in communities with all Indian populations or strong Indian racial contributions, as was true for the communities not in the Altiplano region, is consistent with reports by Mourant (1954, p. 343) showing no one of five North American Indian groups to have less than 75% O blood grouping, with full blood Chippewa Indians having 87.58% O blood grouping, no mention of the Rh factor being given in that report. The data for the Bolivian communities seem well suited as bases for calculation of intermixture of Indians and Caucasians in a manner analogous to the method employed by Glass and Li (1953) in estimating a 3.58% gene flow per generation from the U. S. white population into the American Negro population.

Nutritional indices in Bolivian communities studied. Omran et al. (1967, pp. 104-109 and 139-143) have employed growth curves of height, weight, and the ponderal index (PI) as indicators of nutritional status for the sample of Bolivian people under study. Year by year the mean height curves for each sex of Bolivian children and youth are three to six inches below the corresponding curves for a United States population. However, Bolivian weight curves are nearly identical to those for the U. S., with a slight tendency for the Bolivian mean weights to fall below the U. S. means. PI, which is the height in inches divided by the cube root of the weight in pounds, is systematically lower for the Bolivian than the U. S. group studied. After age 12 females in both countries have lower PI values than males; this is especially true of the Bolivians studied. The low PI values in Bolivia presumably reflect both the high starch content of the diet there and constitutional differences in body build. Omran et al. conclude that the growth data just presented suggest "widespread prevalence of poor nutrition, which is probably compounded by parasitic infection and other debilitating diseases that retard growth." They also present hemoglobin concentration data for six Bolivian communities, separated by sex, which they also take to be indicative of poor nutrition. Low hemoglobin content may result from malnutrition, parasitic infection, or chronic disease; high content is a consequence of increased altitude. Since most of the Bolivian communities had hemoglobin means in the normal range or above, since all but Reyes were at 6,000 feet or above, and since corrections for altitude were not given, these data are hard to interpret. However, Reyes, with an elevation of 700 ft. and hemoglobin means of 11.8 gm. per 100 ml. and 11.6 gm. per 100 ml. for males and females, respectively, compared with 16 and 14 gm. per 100 ml. for males and females in the U. S., seems clearly low, given standard errors or probable errors (not differentiated in the article cited) of about 2.

Health beliefs and practices. Omran et al. (1967, pp. 207-233) present information in narrative form concerning specific health practices and beliefs in the six Bolivian communities receiving particular study. A supernatural orientation is most common in the Altiplano communities but has influence in all the places studied. Modern medical practice often competes with or is substituted for by treatment by *brujos* (folk healers who gained their credentials by a miraculous escape from death or illness) or *curanderos* (healers tending to have their role by inheritance and to give treatment employing herbs rather than the sorcery employed by brujos).

Omran et al. (1967, p. 241) make the interesting recommendation that these folk practitioners of medicine be used as part of a modern health team including scientifically trained personnel. As a consequence, residents of a community who have more confidence in folk healers than in physicians could learn to trust both by seeing the two groups working cooperatively. The folk healers presumably would incorporate modern methods into their own activities and would increasingly ensure that persons with serious illnesses were seen by a doctor.

De Mille (1968) has assembled a mass of largely anecdotal reports on health practices and Peace Corps health care incidents in Brazil. The reader wishing an introduction to the scholarly literature on health problems in Bolivia is referred to Omran et al. (1967, pp. 189-206).

Drake (1968, p. 27), in an anthropological study of Malawian health assistants in the Peace Corps health program there, has concluded that though traditional health beliefs in Malawi have magical elements, there is not "a highly integrated, well articulated and thought out magico-religious system so frequently described as characteristic of preliterate societies." Even trained and experienced health assistants did, however, keep elements of their traditional beliefs about the origin of disease while developing trust in Western medical practice.

Agriculture and Special Projects

Little research has been specifically oriented to the activities of Volunteers assigned to agricultural duties. This is due, in part, to the fact that, as Fig. 6-1 showed, the proportion so assigned was generally about one-tenth until 1969 when a rise began which reached 26.5% in 1971. The increase (requested by host countries) was compensated by a corresponding decline in community development assignments.

The work and the accomplishments of agricultural Volunteers(Peace Corps, Research Division, 1968b) have included teaching surveying and agriculture, serving as extension agents, working with cooperatives and farm organizations for adults, and establishing and fostering 4-H type clubs for youngsters. Other activities have included the development of fish farms, inoculation and testing farm animals, teaching the care and shearing of sheep and llamas, helping to reclaim eroded land, facilitation of increased rice crops, helping with demonstration plots which keep accurate records of crop yield, and aiding with poultry farming. One of the most unusual assignments was the serving as settlement officer or assistant in Kenya, where each officer was responsible for an average of 8,000 acres, 4,000 people, and an annual output of $50,000. These Volunteers were involved in a Kenya government project which supervised construction of water supply systems for hundreds of farms, helped acquire a million fertile acres of land and settle thousands of peasants, and provided much assistance in the handling of farm problems encountered by individuals and groups such as farm co-ops.

Figure 6-1 indicated that from 1963 through 1968 the number of Volunteers not assigned to agriculture, community development, education, or health was always less than 6% of the total. By 1971 this percentage jumped to 16.5%. Special projects have included maintenance and repair of busses required to reinstitute bus service in Conakry, the capital city of Guinea (Committee on Appropriations, 1970, p. 544); organizing a census of market and labor information for the city of Santa Cruz, Bolivia; drawing up community development plans in several countries; drafting legislation in several countries; and even establishing a country-wide network of weather reporting stations and developing an early warning system for hurricanes in British Honduras (Peace Corps, Research Division, 1968b). In keeping with changing times, the Peace Corps entered into a joint program with the Smithsonian Institution near the beginning of 1971, this program being intended to place about 500 advanced-degree Volunteers overseas in environmental projects, particularly in life sciences areas (Anonymous, 1971).

Assessment of Accomplishment as Indicated by Reputation of Volunteers in Communities Served

Stein (1966) arranged for three interviewers from the Department of Sociology at the National University in Bogota, Colombia, plus another Colombian social anthropologist to interview 343 adults and 122 children from Colombian communities served by the Peace Corps. The resulting data seem not to have been used as criterion of individual PCVs' performance because different interviewees knew different Volunteers, thus raising questions of comparability. When presented a group of adjectives and asked which characterized a Volunteer, 97% of the adult respondents characterized them as "kind." All individual Volunteers were described at least once as "kind," "congenial," "a friend of the poor," "active," "worthy of confidence," "knowing the area well," "practical," and "a friend of the rich." The following percentages of individual Volunteers received the characterizations indicated at least once: 52% were characterized as "rich;" 47% as "reserved;" 40% as "without initiative;" 25% as "lazy;" 21% as "unpleasant;" and 12% as "argumentative." The percentage of PCVs judged as having certain characteristics by the majority of interviewees may be substantially less than the percentages just reported.

In a study of the reputation of PCVs in general, rather than of specific Volunteers, Stefflre and Wendell (1967) obtained four basic kinds of data in Cuzco, Peru: (1) The degree to which each of a variety of kinds of people (including PCVs) in the community is rated to exhibit a number of kinds of behavior, thus providing an indication of behavioral similarity between Volunteers and each of the other types of persons; (2) the degree to which members of the community are rated to exhibit each of a number of behaviors toward each of the different kinds of people being studied, again permitting a measure of similarity among types of people; (3) the degree to which pairs of types of people are rated similar to each other overall, not simply in behavior; and (4) the mean rank order of ratings of the amount contributed by each type of people to the improvement of life in the community. The first and third kinds of data were also obtained from citizens of Chimbote, Peru.

In the discussion to follow, the reader will note that *N*s of 20 or even much less were used with all measures given above except for the fourth measure, which employed 523 raters. Some indication of consistency between measures based on large and small samples will be given later.

Table 8 of Stefflre and Wendell (1967) is a composite matrix showing the number of Spanish-speaking Cuzqueños (out of seven interviewed) who said that each of 53 behaviors was characteristic of each of 53 types of people. Analysis of this matrix showed that Volunteers were most similar to *gringos*, *yanapakuqgringokuna* (gringos who help), *militarkuna* (career military), and *padres* (town priests) and least similar to *wiratakas* (con men), *suakuna* (thieves) or *ladrones* (thieves), and *mendigos* (beggars) in rated behavior. A similar matrix based on the responses of five Chimbote residents, also using

53 types of people and 53 behaviors (Stefflre & Wendell, 1967, Table 19), found the behavior of Volunteers most like that of *maestros* (teachers), *sindicalizados* (union members), *medicos* (doctors), and *enfermeras* (nurses), and least like that of *desocupados* (the unemployed), *haraganes* (bums), *rateros* (thieves), and *cogoteros* (assailants), arranged from most similar to least similar. The data from the two communities lack comparability because the lists of types of people are not identical, nor are the lists of behaviors. However, there is some indication of greater status for Volunteers in Chimbote.

Seven Cuzqueños, indicating their fellow citizens' reactions to Peace Corps Volunteers (Stefflre & Wendell, 1967, Table 15), all agreed that these citizens *consideran* (appreciate) and *aprecian* (value) the Volunteers. None said that Cuzqueños *riñen* (quarrel with), *tienen encono* (are jealous of), *maltratan* (mistreat), or *relegan* (ostracize) the Volunteers. One or more of the seven reported reactions ranging from *reciben* (welcome) to *desprecian* (despise).

The third measure, overall rated similarity of types of people (Stefflre & Wendell, 1967, Table 9), shows that 40 Cuzqueños who spoke both Spanish and Quechua rate PCVs as being most similar to *yanapakuqgringokuna*, *gringos*, *turistas* (tourists), and *los que se ayudan* (those who help each other), and least like *licenciadukuna* (army "graduates"), *abogados* (lawyers), *campesinos* (peasants), and *adinerados* (wealthy people), arranged from most to least similar. Nineteen other roles were of intermediate similarity to PCVs. It should be mentioned that *yanapakugcringokuna*, which has been mentioned twice already, is a contrived word specially included as a methodological check; presumably PCVs should be perceived much as gringos who help, and indeed this proves to be true, with some evidence that PCVs are perceived a little more favorably.

Twenty Quechua-speaking monolinguals in Cuzco showed by the third measure (Steffle & Wendell, 1967, Table 18) that Volunteers were rated most like yanapakuqgringokuna, gringokuna (gringos), personerokuna (village representatives), and tiapakuqkuna (transients in Cuzco) and least like tiendayukkuna (storekeepers), refinadokuna (Indians who get refined), haciendayuqkuna (landowners) and wiratakakuna (con men), arranged from most similar to least similar. Forty Chimbote raters (Stefflre & Wendell, 1967, Table 21) judged Volunteers most similar to los que se ayudan, gringos, maestros, and curas (priests), and least similar to charlatanes (fortunetellers), comerciantes (shopowners) obreros (factory or railroad workers), and serranos (mountain people), arranged from most to least similar, with 23 intermediate types of people omitted.

As in the second measure, these different samples lack comparability because the lists of types of people were not completely identical. Variations in the lists appear to have resulted from the use of two languages, Spanish and Quechua, and from recognition of the existence of different types of people in Cuzco and Chimbote. However, neither of these problems should have prevented the development of a standard set of types of people, when expressed in English and limited to types present in both communities.

The fourth measure, based on ratings by 523 residents of Cuzco, showed that PC Volunteers ranked 16th out of 31 groups rated in terms of their contribution to the improvement of life in Cuzco. Some representative mean rankings were: Maestros (1); medicos (2); ingenieros (engineers) (3); turistas (12); parteras (midwives)(15); soldados (soldiers) (21); gringos (22); testigos de Jehova (Jehovah's Witnesses) (28); and ladrones (thieves) (31), as reported by Stefflre and Wendell (1967, p. 1). Table 10 of the same reference shifts from these relative levels of contribution to an indication of the similarity of contribution, measured by the correlations of the respondents' rankings of

Peace Corps Volunteers and of other types of people.

In some ways, the method by which the similarity of contribution is determined seems like the inverse of Coombs' (1952) unfolding technique. Groups of people who are either slightly superior or slightly inferior are categorized as being very similar to PCVs in their contribution to the improvement of life in Cuzco. If one ignores correlational factors and regards ranks alone, the people in ranks 15 and 17 would show the highest similarity to PCVs, since Volunteers were ranked 16th out of 31 groups rated in terms of their contribution to Cuzco. The people in ranks 14 and 18 would show the second highest similarity to PCVs, and so on. Nonlinearity of scale values underlying ranks would presumably prevent identical similarity in these pairs of ranks. It would be interesting to see the results of an analysis of this similarity data using Coombs' techniques.

A three-dimensional model of the factors contributing to intercorrelations between judgments concerning people's contributions towards the improvement of life in Cuzco (Stefflre & Wendell, 1967, p. 39) shows the first dimension weighted most heavily for the group los que ayudan and least heavily for comerciantes, with Volunteers having a very heavy weighting also. The second factor was weighted most highly for turistas and almost as highly for PCVs, with the lowest weighting for obreros. Highest ratings on the third factor went to watuqkuna and testigos de Jehova, with Volunteers being a little nearer to those categories than to enfermeras and medicos at the bottom of the scale.

Stefflre and Wendell (1967, p. 61) support their use of small numbers of raters in some cases by showing substantial rank correlations in Cuzco between judged similarity, based on 40 raters; behavior matrix similarity, based on 7 raters; and similarity in judged contribution, based on 523 raters. The first two variables had a correlation of .45; the first and third of .63; and the second and third of .41. The number of types of people ranked is not mentioned, nor is the previously discussed problem of comparability between categories in successive rating devices.

Relation of Type of Assignment and Occupational Background to Overseas Performance

Performance as a Function of Teaching Experience and Teaching Assignment

R. Jones (1969b) employed two-way designs comparing Volunteers with and without prior teaching experience (including practice teaching) who were or were not assigned Peace Corps duties as teachers. Analyses of variance and occasional analyses of covariance were performed on 11 factor scores based on the OSQ and OVQ measures which Jones developed and previously investigated in a series of articles already discussed. The paper now under consideration should help us understand whether teaching assignments are easier or more difficult than other assignments and whether prior teaching experience is an asset to the Volunteer.

Previous experience by Volunteers seems to have as little relation to the PC job assignment as army assignments have to the work experience of recruits. Though over half the 723 Volunteers studied had previous teaching experience and over half the Volunteers were assigned as teachers, less than half of the persons assigned as teachers had teaching experience. If this apparent mismatch were harmful, we might expect a significant interaction between teaching experience and overseas job on the General Evaluation factor. However, no main effect or interaction was significant in the analysis of variance for this factor. Analysis of covariance with (1) amount of contact of staff and the PCV and (2) language proficiency as covariates yielded significantly superior performance by persons assigned as teachers rather than nonteachers. No significant interaction or significant effect of previous teaching experience appeared. Nonteaching PCVs rated themselves (on the OVQ) significantly higher in PCV impact than did Volunteers assigned as teachers. However, covariance analysis with the same two control variables as above eliminated this effect. We recall our earlier mention of Cobb, Wrigley, and Kline's finding of a .07 correlation between teaching experience and Overall Evaluation overseas, based on several thousand cases. Jones' failure to find this effect may be a function of sample size.

R. Jones (1969b) also found that persons with previous teaching experience rated themselves as receiving significantly less specialized job training in the Peace Corps than did persons without such experience. A significant interaction indicates that this trend reversed itself for Volunteers with previous teaching experience assigned to nonteaching jobs and therefore presumably needing specialized training. Volunteers assigned to nonteaching jobs also reported significantly greater language proficiency, presumably because much Peace Corps teaching is performed in English and thus has a minimal foreign language demand. Staff members rating PCVs on the OSQ reported that the Volunteers assigned to nonteaching jobs had significantly more contact with staff than did other Volunteers.

R. Jones (1968b) has compared 14[illegible] PCVs assigned as teachers and 63 assigned as nonteachers with respect to their ratings on 23 OVQ clusters. Significant differences at the .05 level or better appeared for 10 of these clusters. Jones called special attention to the following four findings:

1. Teachers see less positive changes in host country nation counterparts' (HCNs) job behavior than do nonteachers.

2. Teachers nonetheless found these HCNs less apathetic than did nonteachers.

3. Teachers reported less rigidity or resistance to social change in the host country than did nonteachers.

4. Teachers rated Peace Corps overseas staff performance lower than did nonteachers.

Performance as a Function of Degree of Technical Preparation

In view of Peace Corps administrative changes in 1969, including orders to increase the proportion of Volunteers with specialized training or experience, Jones and Smith (1970) felt it appropriate to determine whether rated job performance, adjustment, or satisfaction of Volunteers serving overseas was a function of the degree of technical preparation of the Volunteer. First a comparison was made among three groups defined by PC guidelines -- 187 professionals and specialists, 470 B. A./B. S. specialists, and 782 B. A. generalists. Mean scores on 11 OSQ and 25 OVQ measures showed no significant differences among groups for any measure. The professional/specialist group had significantly ($p < .01$) lower ratings from pre-Peace Corps service references, and the B. A. generalist group was significantly ($p < .001$) younger than the other two groups.

Jones and Smith thought that the tri-partite classification just reported might have obscured differences due to technical training which would be apparent with classification into a strictly technical and a non-technical group. Reclassification of most of the original group into 392 technical personnel and 942 non-technical Volunteers was followed by analyses on the measures employed previously. The only OSQ measure showing significant differences ($p < .001$) in this case was job qualifications, which were rated higher for technically trained Volunteers than for non-technically trained ones. In self-ratings, the OVQ showed that technical PCVs rated their training as significantly ($p < .001$) more specialized than did the other Volunteers; a comparable result occurred for rating of job skills. In addition, technical Volunteers rated their work sites significantly ($p < .001$) higher in economic development than did non-technical Volunteers. No other OVQ measure showed significant mean differences between groups. As would be expected, technical Volunteers were significantly ($p < .001$) older than non-technical Volunteers.

This study gives little support to the proposition that highly trained Volunteers perform better than less trained Volunteers. It may be, however, that ratings of the importance of the specific jobs performed would favor the work of technical Volunteers. This specific analysis seems not yet to have been performed, but related ones will be reported within the next few pages.

Performance as a Function of Living Arrangement, Geographic Location, Sex, and Occupational Assignment

We learned earlier that factor analysis reveals an ecological factor in staff descriptions of 3,332 Volunteers' lives (Allard, Ralya, & Wrigley, 1964). This factor -- location in an isolated area -- is uncorrelated with Overall Evaluation of the Volunteer's performance. However, Allard (1966d) found a relation between living arrangements and Language Competence as rated either by staff or by an FSI examiner. Greater Language Competence and greater rated Essentialness of Language generally occurred in a progression of living arrangements from living with one's spouse, to living with more than two PCVs, living alone, living with one or two PCVs, and living with a host national. The ordering of these options is not completely obvious -- living alone would seem to belong nearer to living with a host national. However, rated necessity of knowing a foreign language (Essentialness of Language) increases in the order of living arrangements given, providing a rationale for this ordering. Allard also found highly significant ($p < .01$) correlations slightly above .20 between this essentialness measure and number of Europeans or Americans in the community where the Volunteer was serving and between Essentialness of Language and the level of living maintained by the Volunteer (less than modest, modest, or elaborate). More modest living standards and few European or American residents in the community were predictive of a high necessity of the foreign language of the area. More modest living arrangements were also correlated ($p < .01$) at about .09 with rated Language Competence and FSI Speech Rating. However, the two language measures showed opposite directions of correlation with number of Europeans or Americans in the community and with size of community. Because of possible halo effects noted earlier for the foreign language ratings made by Peace Corps staff, we trust the indications from FSI data that language performance slightly increases with increased size of community or increased number of Europeans or Americans in the community ($r \simeq .07$).

Allard and Wrigley (1965d) found that a larger proportion (84%) of Volunteers serving in Africa held teaching assignments than those serving in other continents. Also, a larger proportion of Volunteers serving in Latin America were community developers (27%) or agriculturalists (26%) than in other continents. The demands of these occupational assignments and the characteristics of the different geographical environments presumably control regional differences in other variables such as educational level and work location of the Volunteers. Allard and Wrigley (1965d) performed a series of tests concerning the interaction of regional assignment (Africa, Asia, and Latin America) with other variables. The interaction with educational level (high school, 1-3 years of college, 4 years of college, or some graduate work completed) appears to be highly significant, though the significance level is not reported. Among the Volunteers assigned to Latin America, 11% had only completed high school, as opposed to 2% of Volunteers in Asia and 3% in Africa. Differences consistent with these appeared for the other levels of educational attainment.

Allard and Wrigley (1965d) also found significant interactions ($p \leq .01$) of region with work location and with sex ratio. Rural locations were more frequent in Asia than in Africa and more frequent in Africa than in Latin America, the percentages of rurally assigned Volunteers ranging from 41 to 54. In each case the percentage was higher than for urban assignments because a residual category -- more than one location -- also existed. The percentage of male Volunteers ranged from 66 in Africa to 59 in Latin America, which is surprising if we assume that females are more likely to serve as teachers than to serve in community development or agriculture. These findings apply to 1,568 Volunteers trained in 1962 who completed service in 1964. They constituted almost the entire second wave of Volunteers to successfully serve abroad.

A companion study of 1,530 returning Volunteers from the second wave (Allard & Wrigley, 1965a) showed a significant interaction of percentage of persons in age categories 18-24, 25-30, and 31 years or over assigned to five regions: Near East, South Asia, Far East, Africa, and Central or South America, with mean age increasing in order from 24.2 years for Near East assignments to 24.9 years for Central or South America assignments. The greater mean age for Africa appears to result from the necessity to finish college and possibly teacher training prior to assignment as a teacher, a common lot of Volunteers in that continent. The even greater mean age for Volunteers in Central or South America is a puzzle to be pondered in the next paragraph.

On the one hand, we know that Latin America is a prime location for community development or agricultural projects. On the other hand, Allard and Wrigley (1965a) report that Volunteers assigned to agriculture or community development projects have lower mean ages than those assigned as teachers, as health workers, in other categories, or in more than one of these work areas. A significant interaction ($p \leq .01$) between percentage of persons in the three age ranges mentioned above and in these six occupational categories appeared. Thus principal type of work assignment in Central or South America should militate for young Volunteers while in fact the mean age is greater there than in any other region. This paradox seems simply to warn us of the peril of chains of inference linked by correlations between variables. Goldberger (1971) has recently elaborated on this methodology, commonly called path analysis when applied formally.

Better agreement is found between occupation and location, with Allard and Wrigley reporting a significant association between percentages of Volunteers in the three age categories and location. The mean age of Volunteers in rural locations, where agricultural workers (on the average the youngest Volunteers) would be most likely to be assigned, was 23.1 years as opposed to 25.2 years for Volunteers assigned to capital cities.

Comparison of work environments has also been made for 77 specific Peace Corps overseas projects. R. Jones (1970, Table 2, Appendix C) has provided percentile rankings on 12 measures reported by a total of 2,310 Volunteers each of whom had just completed service in one of those projects. Thus the different projects mentioned are compared with respect to Volunteers' satisfaction with their PC experience and contributions; the need for Volunteers in that project; the quality of staff; the quality of job preparation and assignment; the quality of medical care for Volunteers; the quality of support from the host country and host country counterpart personnel; the usefulness of in-country training; the quality of selection of Volunteers for that project; the quality of language training; and three measures of personal attributes of the Volunteers -- their maturity in age, marital status, and work experience; their first foreign language skill; and their second foreign language skill. These data are probably of use primarily as guides to decisions about specific projects; however, it would be possible to cross-classify them in order to gain information about specific regions or types of work assignment as factors in Volunteers' evaluation of their overseas service.

Attempted Prediction of Success from Joint Consideration of a Volunteer's Characteristics and the Site's Characteristics

Some kinds of Volunteers are predisposed toward successful service in most settings; some settings are more favorable than others for almost any Volunteer. Lichtenstein, Spector, Paydarfar, and Clark (1967) have attempted to learn if PC staff are able to pair Volunteers and sites in such a way as to prevent failure whenever possible. A total of 101 site assignments in four Latin American countries were studied by interviewing field staff and Volunteers in order to learn what potentially predictive factors were and were not taken into considsideration at the time of assignment to each site and to learn which factors were associated with successful or unsuccessful service there. Community development assignments or related assignments oriented toward local communities were those studied.

Four kinds of factors were examined -- the characteristics of the host agency, the community,the project, and the Volunteer. Most characteristics could in principle have been known at the time of site selection. A few, such as motivation of the Volunteer to accomplish appropriate goals, could almost be said to be response variables concomitant with, rather than predictive of, success or failure. Table 6-10 compares the 33 successful assignments, 14 partially successful assignments, and 54 unsuccessful assignments with regard to certain indices of predictive success of items. This table shows that 81% of sites with successful assignments had irrelevant factors which staff members had originally thought to be relevant. Also, 30% of successful sites had features with negative impact where no impact had been expected. The partly successful assignments and unsuccessful assignments proved to have more accurate judgments associated with categories shown in Table 6-10 except for more frequent negative impact from items judged to be neutral by the person interviewed. Since the data of this study are retrospective and accept the respondents' judgment as to the impact of a given factor, Table 6-10 and subsequent data in this section must be viewed with caution.

Insert Table 6-10

Four characteristics of the site appear to be predictive independently of the person assigned to it: (1) 28% of 68 sites new to the Peace Corps had

Table 6-10

Percentage of Assignments (i.e., site and volunteer pairings) with Different Levels of Success which had Features with Impacts of Four Kinds.

(Based on Lichtenstein, Spector, Paydarfar & Clark, 1967, pp. 27-34. Reproduced by permission.)

Kind of Impact	Successful	Partly Successful	Unsuccessfu
	(N= 23)	(N=14)	(N=54)
Foreseen Negative Impact	18%	57%	46%
Predicted Positive but Really Negative Impact	15%	28%	57%
Irrelevant Factor Originally Thought Relevant	81%	36%	77%
Negative Impact When None Expected	30%	86%	75%

successful Volunteers, compared to 42% of 31 sites on which Volunteers replaced earlier Volunteers; (2) of 67 agency-affiliated placements, 36% were successful, compared to 26% of 34 without agency affiliations; (3) of 73 sites where host nationals requested Volunteers, 36% were successful, compared to 19% of 16 sites where Volunteers were not requested; (4) only 15% of assignments for which staff had not made previous visits to the site led to successful Peace Corps service, compared to 17% for sites with visits of 1 day or less, 56% of two days or more, and 40% for sites known for a long time by PC staff (Lichtenstein et al., 1967, Tables 2 through 5). It would seem desirable to assign a total score to a site, the score ranging from 0 to 4 on the basis of the number of favorable items characteristic of the site from the list just given. This or similarly constructed composite scores might then be tested to see if improved prediction resulted from using more than one item at a time.

Volunteer factors clearly had a great deal to do with the success of a Volunteer at a particular site. In successful sites, of 57 Volunteer factors whose effects were correctly foreseen, 52 had been predicted to have positive effects; of 21 such correctly foreseen factors in unsuccessful sites, 18 had been predicted to have negative effects. In addition, of 33 positive factors originally unforeseen for successful cases, 74% were Volunteer factors. Of 54 negative factors originally unforeseen in negative cases, 54% were Volunteer factors. Community factors were the next most frequent sources of unforeseen impact in each type of case. Overall, we could say that the staff members in charge of Volunteer placement in specific sites were more aware of positive factors than negative ones: In successful placements they correctly evaluated 54% of the impact factors, but in unsuccessful placements they correctly anticipated only 22% of the impact factors (Lichtenstein et al., 1967, pp. 39-42).

Staff members had particular difficulty predicting the effects of technical skills and knowledge presumably possessed by a certain Volunteer. For unsuccessful sites 40% of the misjudgments (reversals in direction of effects) of Volunteer factors concerned this one area of competence. Furthermore, 42% of the skill factors used as predictors at unsuccessful sites were irrelevant. Interpersonal skills of Volunteers were also poorly assessed, with only 25% of the statements about them in the two kinds of sites indicating correct prediction. As usual, predictions were more correct for successful than for unsuccessful placements. Motivational factors were mentioned as having been accurately predicted in only 18% of instances in each type of site. Frequently,motivation was unanticipatedly strong and had a beneficial effect in successful placements, while unanticipatedly weak motivation had a detrimental effect in unsuccessful placements. Staff members sometimes predicted strong motivation when weak motivation and failure occurred; they never predicted weak motivation when strong motivation and success occurred. Thus, their only failures in predicting motivation in successful sites were to judge average motivational effort when extraordinary effort was correct (Lichtenstein et al.,1967, pp. 49-50).

A study by Cobb and Wrigley (1966) is also relevant here. They state without documentation that some degree of prediction of which Volunteers will be assigned to isolated sites can be made from peer nomination data obtained during training. The best of these predictors is said to be the score for being named as someone other Trainees feel they can talk their personal problems over with most comfortably, with Trainees so named being more likely to receive isolated assignments.

Summary of Material on Work Done by Peace Corps Volunteers

1. Nearly half of all PCVs are assigned as teachers, about 25% in agriculture and the remainder work in community development (or the newer categories now used for similar work assignments), health, or some other occupational field. Eighty-four percent of Volunteers in Africa have been assigned as teachers. A majority of Volunteers in Latin America have been community developers or agriculturalists. Male Volunteers are most frequently assigned in Africa and least frequently in Latin America. Only 2% of Volunteers in Asia lacked college training, the highest value (11%) on this characteristic being among Volunteers in Latin America.

2. Measurement of the accomplishments of individual Volunteers or of the Peace Corps as a whole would be helped by specification of precise goals to be attained, if possible. In developing such absolute measures of accomplishment, investigators and policy makers must decide what balance to seek between the development of physical characteristics such as school buildings and of human skills such as local self-government or ability to read the local newspaper.

3. The presence of Volunteers as teachers in the Philippines appears not to have increased English usage by Filipino principals and teachers in the same communities. Peace Corps mathematics teaching in the Islands probably accelerated the introduction of modern mathematics into the Filipino school system. There is also some equivocal evidence of superior reasoning and superior computation performance in Filipino students who were taught modern math by Peace Corps Volunteers.

4. Multiple regression analysis of data from over 3,000 Ethiopian 10th grade students showed that school performance (academic), achievement motivation,

and modernity of attitude were each better predicted from degree of previous contact of a student with Peace Corps teachers than from any other predictor used (such as economic status of father's occupation). School performance was much more predictable than the other two criteria. In this study a preliminary cost versus benefits comparison suggests that being taught by a PCV for one class a day for a year may raise a student's average lifetime earnings by $180. Benefits to Ethiopia are estimated as four times as large as the costs to the U.S. of sending Volunteers to that country.

5. An educational television (ETV) project in Colombia provided basic instruction to as many as 400,000 elementary school pupils at a time. The project was jointly operated by the Peace Corps and the Colombian government, with Volunteers being primarily assigned to work with teachers and principals in facilitating the use of televised instruction in individual schools. There is research evidence that increased Volunteer help reduced teachers' problems with ETV and increased student learning. At the end of two years of ETV experience, 66% of teachers desired more television instruction than was currently being provided in their schools. Degree of satisfaction with ETV courses varied by subject matter, with teachers being most satisfied with such courses in natural science and least satisfied with them in social science.

6. A comparison of several Peruvian communities served and not served by Peace Corps Volunteers shows a slightly greater increase in social structure in those communities served by PCVs. Social structure scale increases in Peace Corps communities typically reflected joint efforts of Volunteers and other people or agencies.

7. Over 50,000 skin tests for tuberculosis have been given by Peace Corps

personnel in the studies of Bolivian and Malawian health problems reported in this book. An incidence rate of active tuberculosis as high as 16.9% was estimated in the Yungas region of Bolivia. Large numbers of people served by these projects were placed on drugs to prevent tuberculosis or (in cases known to be active) to cure it, but the effects these treatments had are not known in detail. The Peace Corps has also worked to identify histoplasmosis infection, parasitic infection, and a variety of other diseases.

8. A study of the attitudes of Colombian nationals showed those Volunteers known to interviewees to be almost universally viewed as "kind." Many other favorable traits were commonly attributed to Volunteers, but 40% were reported as "without initiative" and 12% as "argumentative" by at least one respondent. A study of Volunteers in general rather than individual Volunteers found PCVs ranked at the median of 31 occupational or role groups in terms of their judged contribution to the improvement of life in Cuzco, Peru.

9. Degree of technical skill or teacher training appears to have little or no effect upon quality of work done in the Peace Corps. Possibly specialists receive more demanding assignments than generalists, thus warranting primary recruitment of the former. But there is little evidence on this point, and assignment of experienced teachers has not conformed to this hypothesis.

10. Situational factors appear crucial to success in community development work, with new sites being less likely to lead to successful work than sites where Volunteers have previously been located. There is also a greater probability of success if: (1) a Volunteer is affiliated with an agency at

at his site, (2) host nationals at the site requested the placement of a Volunteer there, and (3) a Peace Corps staff person had visited the site for at least two days prior to assignment of a Volunteer there.

Chapter 7

Volunteers at Completion of Service and Thereafter

If a Volunteer who has completed his tour of duty thinks well of the task he has been performing, we would expect him to favor appointment of a Volunteer to replace him unless either the task has been completed or a host country national is ready to carry on the work. Such task-approving Volunteers may also be expected to recommend expansion of the projects to which they are attached and even to extend their service beyond the normal two-year tour of duty. What is known on these points?

In R. Jones' (1970) analysis of data for 2,310 Volunteers questioned in 1969 at the close of their service, 47% of Volunteers said they should be replaced in their current assignments, a drop of 16% from the overall percentage in the 1966 Close-of-Service Conferences. Jones believes that there is evidence that this drop does not indicate that PCVs favor having fewer persons in the Corps -- rather they recommend different assignments than their own. Despite the substantial health problems of host countries noted earlier in this monograph, health PCVs were least likely to recommend their replacement by another Volunteer on leaving the Corps (41%); education PCVs were most likely to do so (49%). By regions, there was a spread of six percentage points, from 42% to 48%, in the three main Peace Corps regions outside Africa, which had 57% of its returning Volunteers recomending their own replacement. To some extent these percentages reflect host country needs. To some extent they reflect Volunteers' approval of their tasks. We should recognize that these Volunteers often had not themselves replaced or augmented the services of earlier Volunteers. In fact they were more likely to recomend their own replacement than to have been replacements themselves. There may be two reasons for this discrepancy: (1) Volunteers' approval of their work is greater than budgetary capabilities to expand it and (2) in a situation where projects come and go, many Volunteers will necessarily have been the first persons on their jobs and thus cannot have been replacements for earlier projects. (The only major work assignment or geographic region for which percentages did not conform to this generalization was North Africa-Near East-South Asia (NANESA), where 60% of PCVs were replacements or augmenters but only 48% recommended replacement.)

Jones' (1970) data on the perceived ease with which a Volunteer's primary job could be filled by a host country national does not tell us whether a Volunteer is responding to the availability of trained manpower in the host country or to the degree of skill required for him to perform the task. Given this problem of interpretation, Jones found that the Volunteers who most frequently reported that a host country national could easily fill their job were those assigned to health services (42%). Those Volunteers who made this report the least were assigned to education (28%).

Corresponding percentages by regions were 42 for NANESA, 36 for East Asia and the Pacific (EAP), 29 for Latin America (LA), and 26 for Africa (A). Enthusiasm for most overall projects is indicated by the fact that 53% of Volunteers on health projects favored expansion of their projects, compared to 63% for education projects, 71% for agriculture projects, and 66% for other types of projects. The percentages of respondents in the four geographic regions favoring expansion of their projects were all in the sixties.

The low morale of health Volunteers may be inconsistent with the importrance and probable effectiveness of health projects. One would have supposed that community development Volunteers would have reported lower morale because of the many difficulties of community development programs. Two conjectures may be offered regarding the morale of health workers. (1) Volunteers have typically been more interested in human relations than in scientific or technological work. Accordingly, the nature of health work itself, as well as the fact that extended close personal contact is possible with fewer people than in teaching or community development, may explain dissatisfaction with these assignments. (2) The enormity of the health task or the shortage of resources to accomplish the task may have dampened the enthusiasm of Volunteers. Thus, if medical supplies are not adequate for a Peace Corps project or if a disease detection or control project seems not to solve a country's problem with that disease, Volunteers working on that project may decide the project should not have been undertaken.

R. Jones also found substantial numbers of close-or-service Volunteers (24% overall) tentatively planning to extend their PC service beyond the normal two years. Men were more likely to extend than women, and single persons more likely than married PCVs. Definite commitments to extend were somewhat lower than the percentages of PCVs planning tentatively to extend. It should be mentioned that Close-of-Conference data come only from successful Volunteers, for Volunteers who returned from overseas early were not invited to these conferences.

Satisfaction with Peace Corps Service

Willingness to Volunteer if PCVs Had the Chance to Remake the Original Decision.

Three studies (R. Jones, 1970; Napolitano, 1966; Napolitano, 1967) show a phenomenally high satisfaction with Peace Corps service as reported at close-of-service conferences for Volunteers from five regions and at three stages in Peace Corps history. Table 7-1 summarizes these indications of willingness

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Insert Table 7-1 about here
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on the part of the PCV to volunteer again given present knowledge and the chance to decide again whether or not to enter the Peace Corps. Note a minor variation in the terminology of questions from year to year and a change from a NESA (Near East-South Asia) label to NANESA, with a corresponding shift of North Africa from one regional category to another, from the first survey to later ones. The Far East and East Asia and the Pacific (EAP) designations appear to be equivalent in geographical coverage. Allard and Wrigley (1965b) report a small but statistically significant ($p \leq .05$) reduction in willingness to volunteer again for 25 to 30 year old Volunteers, as contrasted to older or younger ones.

Though Table 7-1 shows little variation in willingness to volunteer again, as a function of the region assigned, comparable data on whether the PCV would volunteer for service in the same country show substantial regional differences. With the exception of 1969 close-of-service data, when Latin America and Africa tied for second place with 76% of Volunteers willing to return to the same country, the order of regions from most preferred to least preferred was EAP, Latin America, Africa, and NANESA in every set of data. In the 1969 data, East Asia and the Pacific showed a percentage of 78 and NANESA showed 71% willing to volunteer again; but EAP reached as high as 90% in 1966 and NANESA reached as low as 70% in 1963-65.

Overall Satisfaction Rating

The three studies just cited also included relatively comparable questions on overall satisfaction with Peace Corps service. For example, in the most

Table 7-1

Willingness to Join the Peace Corps Again in the Light of Experience in It

(Data on successive lines from Napolitano, 1966; Napolitano, 1967; and Jones, 1970, respectively. Reproduced by permission.)

		Region Where Volunteer Served					
Question for Which Percentage of "Yes" Responses is Reported	Year COSC Was Held[a]	NESA (1966 study) NANESA (other studies)	Far East (1966) EAP (other studies)	LA	Africa	Total %	Total N
"Knowing what you know now, would you volunteer to a) Serve in the Peace Corps?"	Spring 1963 to Fall 1965	94%	97%	94%	92%	94%	4,251
"Knowing what you know now, would you still have joined the Peace Corps?"	1966	94%	96%	95%	91%	94%	4,260
"Knowing what you now know, would you join the Peace Corps?"	1969	93%	92%	90%	94%	92%	2,277

[a] Close-of-Service Conference

recent study (R. Jones, 1970) Volunteers who had just completed service were asked, "How satisfied are you with your total experience as a PCV?" The overall percentages of respondents who replied, "Very satisfied" were 32% for the 1963-65 Close-of-Service Conferences and for the 1966 Conferences, and 37% for the 1969 Conferences. There is a hint that Volunteers were least satisfied with their total experience in the NESA and NANESA regions, but there is little variation among the other three main regions of assignment.

Self-evaluation or Satisfaction with One's Own General Performance Overseas

Napolitano (1966, 1967) found that 84% of returning Volunteers in 1963-65 and 78% in 1966 gave an affirmative answer to the question, "Has your work made a contribution to the country's social or economic development?" Affirmative responses were more frequent in Africa and Latin America than in other regions. Each region showed a small decline in the percentage of affirmative answers between the first and the second study. The earlier study contained an explicit comparison of percentages for this question as a function of whether the work assignment was teaching, community development, health, agriculture, other, or more than one type of work. Only 65% of health workers reported that they had made a contribution to the host country; 83% of workers in each other job category reported that they had done so. Again, we are struck by the appearance of a problem among health workers. R. Jones (1970) asked about seven different possible accomplishments ranging from developing trade or commerce or improving productivity to establishing rewarding relationships with host country citizens. The latter item and another one on conveying infor tion about subject matter, were the only ones for which the modal response was that a substantial contribution had been made. For one item on changing attitudes which tend to inhibit development, the modal response was that a moderate contribution had been made. All the rest showed little or no contribution as a modal report.

Stein (1964) had reported self-ratings for 54 PCVs at the completion of their service as community development workers in Colombia. Ratings were made on six characteristics very much like the widely used supervisors' ratings of Volunteers in many projects: Job competence, relationship with host country counterpart, relationships with Colombians, relationships with other PCVs, emotional maturity, and overall effectiveness. For each characteristic, the modal self-rating was "very good" or an equivalent term on that item. As might be supposed, average ratings by PCVs of all other Volunteers whom they knew well enough to rate were slightly less favorable. This shift was particularly true with respect to relationships with other PCVs and overall effectiveness; but the peer ratings never had a mode worse than "good" or "above average."

Despite generally favorable self-ratings, returning Volunteers do not claim sainthood. Napolitano (1966) reports that only 44% of the persons in her study felt they had given all they could to the whole job of being a PCV. Possibly this serves as a defense against feelings of inadequate accomplishment.

Self-evaluation of Foreign Language Performance Overseas

Comparison of data from Napolitano (1966, 1967) and R. Jones (1970) shows a rise in self-reported language proficiency for more recently studied Volunteers. In close-of-service questionnaires from 1963 to 1965, 37% of PCVs reported their own language proficiency to be either "excellent" or "good." This percentage increased to 45% for data gathered in 1966 and to 49% for data gathered in 1969. Striking regional differences appeared, with the highest percentage of such responses in Latin America (over 60% in each study), next in NANESA, then EAP, and finally Africa (36% or less in each study), with perfect consistency in ranking from year to year. Allard and Wrigley (1965b) found that younger Volunteers (19-24 years) reported significantly greater fluency in the local language than older Volunteers.

One is tempted to infer that the superiority of reported language proficiency in Latin America is the result of the heavy involvement of the Peace Corps in community development and cooperative development, specialties (according to the two more recent studies just cited) which show higher percentages of Volunteers reporting "good" or "excellent" language proficiency. It seems reasonable to suppose that community and cooperative development require particularly good language competence. However, Latin American percentages in language competence are higher than those for other regions in subanalyses performed separately for each job assignment. This fact apparently means that some other factor produces superior language performance in Latin America. One hypothesis is that Spanish is already known by enough Trainees bound for Latin America to permit more advanced language preparation than for Trainees sent to any other region. Another hypothesis is that Spanish is easier to learn than other languages. A third hypothesis is that a foreign language is not required for any job in former British colonies, thus minimizing foreign language learning in parts of Africa, such as Ghana, formerly controlled by Great Britain.

The reader interested in interrelationships between returning Volunteers' reported language proficiency and demographic characteristics such as amount of education or attitudes such as perceived importance of using the local language is referred to Allard (1966a, 1966b, 1966c).

Problems Encountered During Peace Corps Service

R. Jones (1970) found that nine types of problems about which Volunteers were questioned in Close-of-Service Conferences in 1963, 1966, and 1969 showed relatively fewer persons reporting minor or serious problems in most of these areas in 1966 than in the earlier or later Conferences. Figure 7-1 shows that an amorphous complaint, "Frustrations in work," was most common among the nine items similar enough in questionnaire terminology from year to year to be compared. Housing problems were the least prevalent of these difficulties. Related data from 1963-65 Close-of-Service Conferences only show that 34% of Volunteers reported health to be a problem, 33% reported the amount of the PC living allowance to be a problem, 29% reported food to be a problem, and only 15% reported physical hardship as a problem (Napolitano, 1966). There was a range of no more than 9% in frequency of any one problem being reported, as a function of geographic region served or as a function of work assignment. Dating was a particular problem in NESA countries (46%), possibly because the predominantly Moslem cultures in those countries tended to circumscribe permissible dating practices. Overall, only 37% of returning Volunteers reported a dating problem. Isolation in one's living or working situation was also reported in 26% of the questionnaires from returning PCVs.

Insert Figure 7-1 about here

Napolitano's (1967) second study gives evidence of some psychological depression among most Volunteers. Of 4,260 Volunteers, 76% reported at least one period of depression. It is not known what portion of the remaining 24%

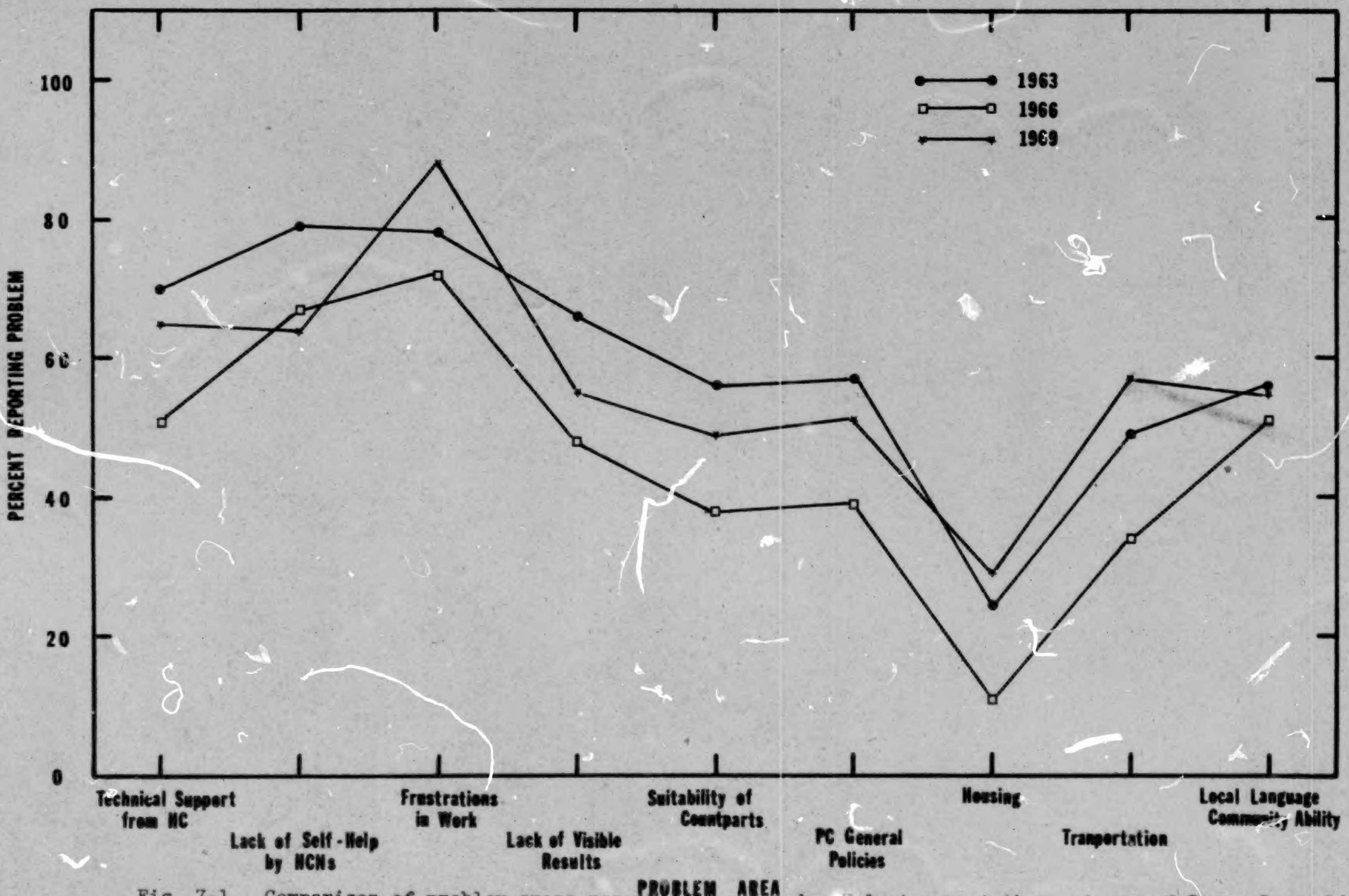

Fig. 7-1. Comparison of problem areas reported by returning Volunteers at three stages of Peace Corps history: 1963, 1966, and 1969. Both minor and serious problems are included. (Data from p. 5 of Jones (1970). Used by permission.)

reported no periods of depression, for there is also a group of unreported size which failed to answer the question. Forty percent of those with some depression reported only one period of depression; 38% had two depressions; 17% had three, and 6% had four to nine periods of depression. Periods of depression of one month or less were modal, with declining frequencies for successive numbers of months up to four. Furthermore, successive depressions for the same person each tended to be shorter than previous ones. Depression was most likely to start in the first month overseas, but the largest number of Volunteers seemed to become depressed around the third month. These data were obtained as an aid to administration and counseling to illustrate that depression is a common problem among PCVs and should not alarm individual Volunteers.

Allard and Wrigley (1965b) have found that 12 self-reported problems from the Close-of-Service Conferences are significantly ($\underline{p} < .05$ or better) associated with age of the Volunteer at the time of the COSC. Younger (18-24 years old at last birthday before completion of questionnaire) Volunteers were more likely than intermediate (25-30 years) or older (31 years or over) to report problems giving all they could to the whole job of being a PCV; lacking technical skills for their jobs, lacking intellectual stimulation; feeling that they had been faced with excessive social demands from host country nationals; and feeling a lack of activity on the part of the host country nationals to improve matters for themselves. This does not mean that a majority of young Volunteers reported each problem. The last problem noted was reported by over 73% in each group, and the problem of intellectual stimulation was reported by 53% of the younger group and about 44% in each other group. No other problem just listed had a majority of any age group listing it as a minor or serious problem.

The same Allard and Wrigley study also reported that a middle group (sometimes not exactly the 25-30 year old group) reported significantly less of a problem concerning food, physical hardships, and variations in the skills of Volunteers than older or younger Volunteers. The middle group had a higher percentage of persons reporting problems in the areas of inability to see results for their work, having low points since arriving overseas, and dating. Depression and inability to see results were two areas in which a majority of members of each age group reported problems. None of the three basic age groups showed a majority of members reporting difficulty with any other problem mentioned above.

Allard and Wrigley find it puzzling that the middle group is as likely to be highest in incidence of some problems as to be lowest in incidence of others. In light of the fact that 25 to 30 year olds have the fewest terminations prior to conclusion of service, how can this be? And how can the middle group attach relatively little importance to the building of a better world and the improvement of international understanding as a reason for joining the Peace Corps? No reasonably convincing explanation appears available.

Education, Career, and Civic Aims of Returned PCVs

Questioning of Volunteers at the time of completing service provided strong evidence (Napolitano, 1966, p. 28; Stein, 1964, pp. 152-156; Stein, 1966, pp. 228-229) of intentions of many Volunteers to continue their education. Many of these Volunteers planned to carry on teaching careers. In addition, many planned to enter international and/or governmental work. For example, of 4,260 Volunteers studied by Napolitano, 28% planned a teaching career; and 11% had overseas federal employment as their career goal.

Actual choices of former Volunteers are reported by Calvert (1966a), who studied 6,652 persons discharged in three years from 1963 through 1965. Overall, 25% went to graduate school, 10% continued undergraduate training, 13% worked for the federal government, 4% for state and local government, 1% for the Job Corps and War on Poverty, 16% in teaching, 7% in non-profit organizations, and the remainder in business and profit-making organizations. The nature of graduate curricula selected is noteworthy. Consistently with predictions from Stein's (1964) study of Volunteers in Colombia, 36.54% of returned Volunteers were concentrating in social science and area studies. This contrasted with a national percentage of 8.54% for students in general. Volunteers were also more likely than others to study humanities and foreign languages, agriculture and forestry, and a residual category called "other." They were less likely than other students to study law, technical subjects, health and related topics, business and education, the latter area showing 18.73% of PCV graduate students and 41.55% of the general graduate student population engaged in it. Smith (1965b, Tables D and E), in a study of questionnaires from 73 ex-Volunteers who had recently returned from Ghana, found little relationship between factor analysis-defined role performance or personality measures and activity after leaving the Peace Corps. There is a hint that persons who scored high on self-actualizing search for identity were more likely to go to work as Peace Corps staff members and less likely to return to college or graduate school than persons scored as low on this trait.

Do the differences in type of subject studied or vocation entered by returned Volunteers and the general population reflect original differences between Volunteers at the time they entered training and other persons of their age, or do they reflect effects of the Peace Corps experience? Most of the attempts to answer this question are based on retrospective data in which returning Volunteers tell their present plans and also report their memory of plans at the time they began Peace Corps training. By this method Stein (1966, pp. 228-229) inferred a 27% increase in the percentage of his 51 Colombian Volunteer respondents who planned to enter government or international affairs; a 19% increase in percentage of Volunteers planning to continue their education; and of those planning to continue their education, there was a 33% increase in the percentage planning to specialize in social science. Napolitano (1966) observed a substantial increase in planning for overseas federal employment, as well as a decline from 31% to 28% of the 4,260 returning Volunteers planning to teach at any level from elementary school to the university.

Smith (1964a) was fortunate enough to have Mock Autobiographies from training of 50 Volunteers assigned to Ghana (Ezekiel, 1968) available for comparison to the career activities of these Volunteers during their first year following return from the Peace Corps. The Mock Autobiographies showed 58% of the Volunteers explicitly mentioning the possibility of an international emphasis in their career; 56% were either studying for such involvement or employed in positions with international aspects at the time of Smith's study. In contrast, though 84% had mentioned the possibility of a teaching career during PC training, only 10% were employed as teachers and another 12% were enrolled in master's degree programs in education. Many of the 42% enrolled in other master's programs or Ph.D. programs will presumably also enter teaching careers; nonetheless a decline in teaching interest is suggested by these data as well as Napolitano's retrospective data mentioned earlier.

A further indication of a decline in teaching interest with Peace Corps experience comes from L. Harris (1966a, 1966b). Three groups of about 100 persons each who had accepted invitations to Peace Corps training showed the following percentages of persons expecting to be teachers 10 years hence: 56%, 39%, and 46%. Teaching interest of PC Trainees later studied by Napolitano (1966) and Stein (1964, 1966) was less than that of the persons studied by Harris. Unless Harris' groups were unrepresentative of persons entering PC training in 1966 or unless Volunteers who will complete service are substantially different from the total pool of Trainees, it appears that a substantial decline in interest in teaching, perhaps 10 to 15% in absolute value, may have occurred during Peace Corps service.

Stein (1966, pp. 229-232) has used retrospective data as an indication of a substantial increase in the percentage of Volunteers in his Colombia study who participated or planned to participate in charitable or educational civic activities or in political affairs. By the end of a year after completion of PC service, there was only a slight increase in number of persons involved in non-political community affairs; however, the number actually involved in political activity tripled from 5 to 15 of the total of 52 in the period before Peace Corps training to the end of the year after Peace Corps service.

Though research evidence on their operation is not known to us, two transition centers have been established in recent years to provide vocational and educational guidance for returned Volunteers (Committee on Appropriations, U. S. Senate, 1971, p. 269).

Changes in Personality Scores During and After Peace Corps Service

Much of what we know on this topic comes from Stein (1964, 1966). Table 7-2 shows the trend of mean scores on four variables -- anticipated or experienced difficulties in the Peace Corps, Psychological Well-being (Barron), Anxiety (Taylor), and Authoritarian Values (Levinson). The first measure has already been described enough to make it plain that it is not, strictly speaking, a personality test score. However, it seems useful to present this measure for comparison with standard personality scores. It is interesting to note, for example, that difficulties are greatest toward the end of service whereas unfavorable scores are less present at that stage for other measures.

Insert Table 7-2 about here

One indication of change in reported attitude from the beginning of Peace Corps training to the end of service was discussed in Chapter 3 -- Stein's finding that Volunteers retrospectively reported that their motivations for joining the Peace Corps were different from those expressed during training. Though motivation to serve other people or countries was still listed as high in the second measurement, some items reflecting this basic motivation had decreased in importance. On the second administration of the motivation questionnaire, there was an increased reporting of desires to satisfy personal needs or develop oneself. Regardless of the unknown mechanism producing this change in emphasis, it seems desirable to us. The Peace Corps

Table 7-2

Trends in Mean Personality Scores and Expected or Encountered Difficulties from the Beginning of Peace Corps Training to a Year after Service Ended

(An abridgement of Table 9.2 from Stein, 1966. Reproduced by permission.)

Measure	Training	6 mo. in field	1 yr. in field	End of Service	6 mo. follow-up	1 yr. follow-up
Difficulties	20.0	19.9	24.8	24.8	-	-
Psychological Well-Being (Barron)	52.9	52.5	52.5	53.8	53.1	53.8
Anxiety (Taylor)	6.2	8.5	8.3	7.3	8.8	8.0
Authoritarian Values (GT-F from Levinson)	81.4	76.6	77.1	76.8	75.2	76.0

has seemed to wish to avoid being the patron with the host country being patronized. To the extent that individual Volunteers recognize the benefits offered by Peace Corps service and by contact with host country citizens, this wish is likely to be satisfied.

One should not exclude the possibility that Stein's evidence on this point could have been duplicated by a much earlier retrospective test under appropriate conditions. If Trainees had been offered a truly confidential means of expressing their motivations the day after first stating them for the record, they might also have reported more interest in self-development. This is to suggest that reported motivation for service may have been in part an attempt to project a favorable image to Peace Corps selection personnel.

Difficulties

Stein (1966, p. 209) reports a significant increase in reported difficulties between the testing after six months in the field and the testing at the end of the first year of service abroad. All other pairs of adjacent means show nonsignificant differences. Apparently periods of involvement are also periods of difficulty.

Psychological Well-being

Duncan (1955; see also Scheffé, 1959, p. 78) tests of Table 7-2 findings/showed that mean Psychological Well-being was significantly lower after six months in the field and also after one year in the field than either at the end of service or at the one year follow-up. No other pairs of administrations showed significant differences. This suggests a temporary effect of stress during Peace Corps service.

Anxiety

Anxiety scores appear to have been cyclic, with a significant increase from training to either the test after six months or one year in the field, a decline at the end of service abroad, and a significant increase from that point to the test six months after completion of service. This looks as if involvement in Peace Corps service or in school or work after service produces anxiety, but as if being in training was not so anxiety producing, and being discharged was anxiety reducing. It is not clear why anxiety scores should have been lowest during training, frequently a stressful experience. One could hypothesize that Trainees were dissembling by denying anxiety reponses. If this were the case, one wonders why hints of dissembling did not appear with the other tests given during training. Possibly this test has a less subtle content than the Barron or Levinson test, but we have no direct indication that this is the case.

Authoritarian Values and Attitudes Toward Minority Group Members

Significance tests on the mean Authoritarianism scores from Table 7-2 show a sharp drop from the first to the second testing, with no change thereafter. This evidence for a move toward more democratic values is consistent with retrospective data (Stein, 1966, pp. 213-214) from 52 Volunteers in this Colombian group, of whom 27 reported becoming more accepting of minority groups during Peace Corps service and only 2 reported becoming less accepting. It must be emphasized that we do not know whether these particular changes or any others occurring from the beginning of Peace Corps training to some late date are due to the Peace Corps experience, rather than to general maturation or experiences common to persons of the Volunteers' age and background.

Subsequent History of De-selected and Resigned Trainees

Sanborn (1964) mailed a questionnaire to former Trainees at the University of Hawaii, Hilo, 50 of whom had resigned from the Peace Corps during training and 104 who were de-selected. Overall, 71% of the questionnaires were returned, with 66% of the de-selected Trainees and 82% of the resigned Trainees responding. Thirty-three percent of the respondents had returned to school, 3% below R. Calvert's (1966a, 1966b) study of Volunteers who had completed service. Twenty-three percent of the people studied reported a loss of direction in terms of their former career goals. This is a vague finding, but it may suggest that young people who failed to complete Peace Corps training successfully viewed their failure as evidence that they were not suited for the occupations related to the PC assignments to which they had aspired. If this inference is correct, the Peace Corps should probably find out what proportions of people changing career goals have been helped or hindered by their Peace Corps training.

Sanborn found a significant difference between resigned Trainees' feelings about their decisions to leave the Peace Corps and de-selected Trainees' feelings. The resigned Trainees, since they had made the final decision themselves (though often with information about poor prospects for an overseas assignment), generally approved of their own decisions, with 80% of them voicing this sentiment. Only 36% of the de-selected Trainees, however, approved of the decicions made by others which led to their de-selection. Similarly, the two groups differed significantly in their overall evaluation of their PC experience, with 63% of the resignees and 44% of the de-selected Trainees viewing it as a positive experience. Both groups showed a slight average lowering in perceived opinion of the Peace Corps since the time when they had first applied to become Volunteers, but 90% still approved or strongly approved of the Peace Corps. Even if we assume that all those who didn't respond to Sanborn's questionnaire disapproved of the Peace Corps, this would still leave an overall rate of .71 times .90, or [illegible]% approving or strongly approving of the Peace Corps.

Summary of Evidence on Returned Volunteers

1. At the completion of service, Volunteers almost universally say they are glad to have served in the Peace Corps. However, only 47% assert that their specific job should be assigned to a replacement Volunteer rather than being assigned to a host country national or dropped completely. In this and other measures or perceived job importance, health PCVs are particularly negative, compared to other categories of Volunteers.

2. About 80% of returning Volunteers judged that they had contributed to the host country's social or economic development. Volunteers were generally satisfied with their own performance and that of their peers. Self-ratings of language performance were noticeably lower for the earliest groups of Volunteers completing service than for later groups.

3. The most common problem of Peace Corps service reported by returning Volunteers is very vague -- frustrations in work -- reported by 80% of those questioned. One of the least frequent complaints is poor housing, reported by only about 20% of Volunteers over the course of several years of studies.

4. Most Volunteers report at least one period of psychological depression, typically early in the period of service abroad. This may be an aspect

of adjustment to a new culture. Comparative data from other two-year periods for young people not involved in the Peace Corps might show similar amounts (but different timings) of depression.

5. Returning Volunteers who go back to school emphasize social sciences and studies of specific geographic regions more than other students do. There is some reduction in the degree of interest in teaching as a professional goal by the end of Peace Corps experience. A high rate of entry into jobs involving government or international affairs has been observed among returned Volunteers. There is some indirect evidence of an increase in political activity among returned PCVs compared to their involvement before joining the Peace Corps.

6. A study of one Peace Corps project showed a reduction in authoritarianism and an increased acceptance of minority groups over the course of Peace Corps service. Note that these effects and others listed above may be due to Peace Corps experience. However, existing data are not adequate to exclude the possibility of these changes merely being the result of two years' added maturity, regardless of Peace Corps service.

7. Limited data show a surprisingly high approval of the Peace Corps among former Trainees who either resigned or were de-selected before being sent abroad.

Chapter 8

An Overview of Peace Corps Goals and Research

On July 1, 1971, the Peace Corps ended its independent status in the U. S. Government and became a major part of the newly formed agency called ACTION. This agency, which originally was headed by Joseph Blatchford until the end of 1972 when he resigned, being succeeded the next April 10 by Michael P. Balzano, Jr., (Committee on Foreign Affairs, 1974, p. 23), attempts to coordinate all governmental volunteer work of the United States, including VISTA, the Service Corps of Retired Executives, and Foster Grandparents, among others (House of Representatives, 1971). Now that the Peace Corps has become accustomed to its role as the International Operations division of ACTION, it seems appropriate to use this final chapter to take a global look at the Corps' past and its future. Though we will continue to focus on research issues, some questions about the Peace Corps' goals and the extent to which they have been met will be raised. Answers to these questions would be desirable, but we will find that only tentative conclusions are possible at this time.

A survey of Peace Corps literature, as well as conversations and correspondence with persons who have done research for the Peace Corps, suggests that special research difficulties sometimes arise because of the nature of the Corps

1. Evaluation of any on-going process is likely to preclude true experimental investigation of the variables of interest. The Peace Corps, for example, is

understandably hesitant to send supposedly unsuitable applicants or Trainees overseas to see if they will perform as well as a more highly selected group. (Dooley, 1969, p. 3, footnote 2 , reports that such a procedure was actually followed in 1968 with a group training for service in the Dominican Republic. However, he knew of no evaluation of overseas performance up to June 1969 for those Volunteers who would normally have been deselected at the end of training.) Yet thorough validation of selection procedures really demands that some variant of this research procedure be employed, using a large group of Trainees intended for service in a variety of occupational and geographic settings.

and in many overseas projects. Many measurements are standardized across locations and time in order to permit suitable comparisons. But rapid retrieval of information from selection files for comparison with overseas or training data from the same persons has demanded increasingly refined methods of data storage and retrieval. Thus an important study by Allard and Wrigley (1965c), seeming to contradict other indications that slightly older Volunteers are better prospects for the Peace Corps, was forced to employ a relatively small sample size because overseas ratings were available only on punched cards. This necessitated finding corresponding entries on a magnetic tape of selection data and transferring them to punched cards rather than working more conveniently with two tapes and correlating programs.

3. The Peace Corps has had a reputation for doing many things in a hurry. At its inception, selection devices were desired almost instantly so that recruitment could proceed. Once negotiations to place a project in a certain country were completed, there often seemed to be very little lead time before training should commence if the project were to begin on schedule. In several instances, this also caused research and evaluation procedures to be rushed. The net effect of time pressure may have been positive in some instances, merely assuring rapid and competent execution of a task. In other cases investigators have indicated impairment of their work because of lack of time to do it properly.

4. The Peace Corps has justifiably worked to maintain good public relations here and abroad so that host countries would continue to desire Volunteers and the United States would continue to be willing to provide and support them. On at least one occasion, however, (Committee on Foreign Affairs, 1968, p. 19), there has been criticism of a Peace Corps report at a Congressional hearing on the grounds that it reflected a Madison Avenue approach to communication.

One could ask whether research for the Peace Corps has ever been distorted by the need to maintain a favorable public image for the Corps. Certain research documents have been classified for a time. In some cases, such as opinion polls of college seniors, a major consideration in the classification of these polls may have been public opinion, just as in the case of restricted circulation of more controversial documents in the Defense Department or Department of State.

5. Turnover of research personnel in the Peace Corps has been very great even for an organization which sets a five year limit of employment for its professional staff. The rapid attrition of directors of the Research Division (or officials of divisions with a different name but with that function), plus policy changes during and between different presidents' terms, may have produced discontinuities in research activity. Furthermore, Congressional hearings, including annual requests for lists of all consultants and experts and of all research contracts, plus objections to research without immediate operational implications, may have restricted the scope of Peace Corps research.

6. Research workers may be most capable in answering very limited questions, partly because larger questions have not been framed in such a way as to permit operational definition of their meaning. This leaves the Research Division subject to the charge of answering everything but the question of whether the three basic statutory goals of the Peace Corps are being met.[1]

7. Studies questioning the basic purpose or operating philosophy of the Peace Corps are unlikely to be found in the archives. Outsiders such as the present author must rely primarily upon written materials as sources of information about bureaucratic influences on Peace Corps research. Hence our discussion of this topic will be incomplete.

In view of the fact that the Peace Corps Division of Research or Evaluation and Research (as opposed to a Division of Evaluation only) has not existed since about 1971, it may be only an intellectual exercise to suggest how future Peace Corps research should be conducted. However, research funds are still being spent by the Peace Corps ($75,000 indicated for FY1973, Committee on Appropriations, 1972, p. 928). Also some evaluation and management studies do continue; they have obvious research aspects. Accordingly some suggestions about Peace Corps research policy will be made in the remainder of this chapter.

Possible Quasi-Experimental Approaches to Peace Corps Research

Though we advocate more use of true experimental designs in Peace Corps research, particularly training research where random assignment of treatment groups is a reasonable option, we recognize that compromises with ideal procedures are sometimes necessary. Campbell and Stanley (1966) have written a basic source document on what they call quasi-experimental designs, i.e., procedures with some but not all the features of true experimental designs. One recommendation for their potential application to Peace Corps research comes directly from Campbell (1969). It would be useful to know how much the attitudes of Peace Corps Volunteers change as a function of Peace Corps service. From existing research we know quite a bit about Volunteers' attitudes at the close of service but much less about their attitudes at the beginning of service. It would be useful to increase our knowledge on the latter point. However, even with such knowledge, we could not be certain how much of the change during service is attributable to being in the Peace Corps, as contrasted to some other possible kind of life for the corresponding period of time. Since random selection of an experimental group serving in the Peace Corps and an equally qualified control group not serving is clearly undesirable in that it reduces the number of Volunteers and capriciously denies service to qualified people who desire it, Campbell suggests an alternate research procedure.

Campbell recommends that selection lists of applicants who were not accepted be scanned for names of persons whose rejection might be presumed to be based on factors other than their attitudes. For example, applicants or Trainees rejected for overseas service for medical reasons would be sought and used as a control group whose attitudes would be studied. The attitudes of members of an experimental group, consisting of Volunteers who served the full two year Peace Corps term, would be compared to those of control group members. Both groups would be studied approximately two years after the time training began, or in the case of rejected applicants, two years from the time training would have begun. Some matching of groups on relevant variables could also be performed.

Campbell suggests two added control procedures for the study proposed: (1) Since the addresses of rejected applicants or Trainees would be more out-of-date than those the Peace Corps has for the successful Volunteers, use of most current addresses for both groups might bias the study to emphasize data from rejected applicants who have not changed their addresses recently. Therefore, questionnaires should be sent to both groups using an original address such as the parents' or next-of-kin. (2) Since the assumption that persons with medical problems or similar bases for rejection would not differ with respect to attitudes has not been validated, Campbell suggests that the same attitude questions administered in the two groups already recommended also be administered early in the application process for a new group of potential Volunteers. Then the attitudes of the applicants subsequently rejected and having characteristics like those of the control group above could be compared with matched successful applicants to see if the assumption of comparable attitudes is justified.

In view of the Peace Corps' need for special research techniques in many cases, we make our first recommendation:

Recommendation 1. In conducting further research the Peace Corps and its contractors should consider the use of quasi-experimental designs and associated controls recommended by Campbell and Stanley (1966) in situations where true experimental designs are impossible but the advantages of experimental control are desired.

Problems of Information Gathering, Storage, and Retrieval

In a study of management of program and training information in the Peace Corps, the American Technical Assistance Corporation (1968) made recommendations intended to improve the efficiency of Peace Corps information systems as well as to apply the Planning, Programming, and Budgeting System (PPBS) being adopted by the federal government. In view of PPBS emphasis upon comparison of cost and benefits associated with each program operated, it was natural that this report should have expressed dismay at what was termed "a complete absence of any regularly reported effectiveness information on programs."

We have seen some evidence of attempts to evaluate effectiveness of specific PC projects, as in the case of the Cornell Peru study (Dobyns et al., 1966) and a Philippines education project (Allen & Herring, 1968). In addition, staff members of the PC Division of Evaluation (or equivalent units with other titles in other years) have performed evaluations of many training projects and overseas projects, with overseas evaluation reports often running from 60 to 150 pages in length. In some cases, these evaluations have been the basis for replacement of project directors or other staff members or for reorganization of troubled projects; in others they have simply served to give Peace Corps office and division heads a realistic picture of the operation of each project studied. Among the problems identified in such evaluations are: "dangers in letting Volunteers use vehicles, the need for constant re-evaluation of the living allowance, stationing too many Volunteers in one city, the need for more staff members, poor language-learning both in training and overseas, the dangers of laissez-faire programming and inadequate site investigations, the need to integrate all aspects of training into a cohesive body of instruction, and negative and non-performing Volunteers" (Bennett, 1966, p. 124).

In light of the above evidence on evaluation of projects, how could it be claimed that there is a complete absence of regularly reported effectiveness information? The American Technical Assistance Corporation (often abbreviated ATAC hereafter) report seems to suggest the need for annual reports from overseas projects rather than from the Evaluation Division. We suppose that three objections to existing evaluations may have been implied: (1) Evaluations, though thorough, may not have been standardized in form, making it difficult to apply economic decision theory methods to them. (2) Evaluations may not have been standardized in frequency of occurrence for each project. (3) Evaluations may not have yielded estimates of project costs and benefits measured by a common scale permitting comparison of costs and benefits within a single project or between different projects or of any project against the costs and benefits of having no project at all.

One cannot help but wonder whether evaluations leading to cost-benefits analyses would not lead Peace Corps planners into a dreamland where so many assumptions had to be made before measurements could be taken and decisions made as to render the entire process questionable. However, it is likely that the effort would be an interesting, even useful exercise. Two approaches to measurement of benefits come to mind: One could take existing narrative evaluations and attempt to estimate the benefits derived from each project by quantifying relevant information in the evaluation documents much as Richard Jones (1967) quantified the evidence from Full Field background reports. Or one could develop standardized measures of a variety of items indicating the adequacy of a project, obtain the same measures for all projects of a reasonably broad class to which the particular measures should apply, and then use weightings and transformation devices for the purpose of obtaining a single score of benefits for each project. Regardless of whether the final estimate of benefits was listed in dollar amounts, either approach would have to come to grips with Weckstein's (1972) argument that development projects must be evaluated with respect to their benefits as priced in the local economy, not with some other method ("shadow pricing") developed to reflect nonmarket considerations.

Some data relevant to the second approach appears in reports by Musick and Jones (1971) and Jones and Popper (1971). Cross-country and even cross-project comparisons are made of Volunteers' evaluations of their projects at the time of mid-service questionnaires. Comparisons are usually reported as percentile scores or occurrence of scores in the highest or lowest quartile on a given measure. For example, Tables 1 to 4 of Jones and Popper compare 93 projects with respect to 16 measures taken from four areas -- general attitudes, placement and training, project support, and programming. In those tables a project is scored as in the lowest quartile, intermediate quartiles, or highest quartile on each measure. If the total number of items with the highest quartile rating is taken as the composite score for a project, three projects (a Micronesian project for teaching English as a second language, a Cameroon fisheries project, and a Fiji agriculture, forestry, and geology project) rank highest with a score of 11. Something like this composite score would be appropriate as a measure of benefits from the project if the score were in absolute units and if the elements of the composite were exactly those deemed most suitable.

Preliminary cost-benefits analysis could perhaps use these composite scores, but these scores are not in absolute units because they are derived from percentiles; this could be misleading if percentiles were based either upon a group of generally poor projects or a group of generally excellent projects. Also, use of percentiles prevents any attempt at conversion to dollar units of benefits. Furthermore, the items on which the composite are based are less than ideal for our purposes because the four areas measured reflect quality of operation and only indirectly reflect quality of accomplishment. One must also consider that any useful measure of benefits would require gathering data from host nationals rather than restricting the investigation to Volunteers.[2] Note that these remarks showing limited usefulness for cost-benefits analysis of the two studies just cited do not cast doubt upon their potential usefulness to the Peace Corps in improving placement and training or other Peace Corps operations. Furthermore, the four items on placement and training might be quite relevant to cost-benefits analysis of training projects without being useful for evaluation of specific overseas projects.

It seems to us that cost-benefits analysis can be most useful if done within the context of econometric analysis of developing nations. This brings us to our second recommendation:

Recommendation 2. Cost-benefits analysis for the Peace Corps should be planned in such a way as to permit ready comparison of Peace Corps contributions to the economy of a host nation with independent econometric evidence on other aspects of that country's development.

A second informational problem noted in the ATAC report (1968) was that a more extensive archival and historical data base was needed in order to refine and improve program and training decisions. This study (ATAC, 1968, pp. 39-

41) reported that 5,000 documents enter the Washington Peace Corps Information system each year, of which 1,500 are books and periodicals, 1,200 are host country publications, and 2,000 are Volunteer or staff reports, with a variety of other items contributing to the total. A total of about 10,000 non-book and non-periodical items was estimated to be in the system at the time of the ATAC study in 1968. The ATAC report indicated that, despite the volume of existing and incoming information stored at the Washington branch of the Peace Corps, further information was needed, some kinds of information (such as reports on individuals' performance) needed to be deleted, and certain documents needed to be retired after a few years to make room for more current and more important material. The report also recommended the assembly of basic information packages as historical data.

When the ATAC report was written, the Peace Corps had several libraries or information pools in Washington. It was recommended that a heavily centralized document storage and cataloguing system be developed. After considering the costs and capabilities of several different systems with varying degrees of computer involvement, ATAC recommended continuation of the traditional manually-operated library system of the past but on an augmented basis. All libraries except the Medical Library and a new and enlarged central library would be abolished though some information storage would be permitted elsewhere as long as copies of all basic documents reached the centralized information system as well. Estimated annual cost for the new system was $49,260, compared to existing charges of $30,000 annually for the Medical and Main Library. Costs of $46,000 to $120,000 annually were estimated for a variety of automated methods, no one of which would perform as many desired functions as the manual system. Estimated additional first year costs required to set up each of seven possible information systems (obtained by subtracting corresponding entries in Exhibit VI from those in Exhibit VII of the report) showed a $3,000 expense with the augmented manual system and from $4,000 to $48,900 forthe various automated systems.

A final issue of importance in the ATAC report was the storage of training documents and the dissemination of information about them from one training project to another. It was estimated that the total array of training materials for about 150 PC training programs would include about 150,000 separate units, an average of six copies each of 25,000 items. Too few copies of most items existed to warrant continuation of an already collapsing system of requiring each training institution to return all left-over items to Washington. The main reason for centralized information about training materials was to permit projects training for one country or region to know about materials employed in comparable projects at other institutions. Therefore, the library should contain at least one copy of each item used in training, together with a record of where it had been used or could be obtained. In some cases larger quantities of training materials could be stored in the library, as when it proved economical to ship all remaining materials from a training institution which would not soon have another project requiring those materials.

A more circumscribed concern with formalized information systems has been manifested by Fiks (1967b), who developed the Language Training Documentation System (LATRAD) for the Peace Corps. The purpose of Fiks' work was to design data collection instruments on which a data bank on Peace Corps language teaching could be based. LATRAD was intended to serve three functions: (1) to provide information and guidance to language coordinators of PC training projects concerning previous experience in Peace Corps language training, (2) to provide a data pool for future research, and (3) to furnish systematic empirical evidence for decision-making by Peace Corps officials. The system was designed to employ standardized forms filled in by language coordinators, Trainees, Volunteers, Selection Officers, and (eventually) overseas staff members, describing the goals of foreign language training in specific projects (S-2 rating on the FSI tests, for example), methods and amounts of foreign language instruction, Trainee satisfaction with foreign language training, and Volunteer fluency overseas. Much of Fiks' research on language training, reported earlier in this book, has employed LATRAD data. Thus that information system appears to have been useful in serving the second function stated above, at least. However, we have previously been critical of some of that research because of the recommendation of certain training procedures on the basis of data from projects using two different training methods but without a true experimental design or evidence of equivalence of groups in other respects. Thus the existence of a data pool should not be allowed to encourage investigators to omit gathering of new data in ways essential to the answering of questions deserving attention.

Recommendation 3. Maintenance of a Peace Corps data pool for research purposes is desirable as long as research is not limited to the analysis of material in that pool.

Special Operational Problems in Peace Corps Research

The most striking example of haste in a research-related activity of the Peace Corps is the story of the development of the Peace Corps Biographical Data Blank. We quote from Krug (1962b, p.2):

> In mid-April of 1961, the American Institute for Research received an urgent request from the Peace Corps for the development of a BDB. Because of extremely stringent time conditions, work was begun immediately on the basis of an oral authorization. A development contract was signed on 3 May, 7,600 printed copies of the BDB were shipped on 6 May, and the contract was terminated on 8 May with all obligations fulfilled.

The reason for such rapid preparation of the BDB is that it was to be administered to the first Peace Corps applicants as a selection device. We have seen indications that the original scoring rules for the BDB were somewhat less satisfactory than those developed after examining relations between Final Board ratings and responses to specific items. To the extent that BDB scores rather than individual item responses were used by selection personnel as indices of suitability, the first selection may have been slightly poorer than that employing the revised BDB in part. However, Krug comments that an increased correlation of BDB scale values with FBR was typically compensated for by greater correlation of the BDB with aptitude scores, leaving the multiple correlation with FBR about as before. Consequently, the hurried preparation of the test probably had little effect upon the validity of scoring *for the items actually employed*. However, neither the original nor the revised set of scoring keys for the

BDB yielded a very valid set of predictors. Krug recommended revision of the items themselves in light of the analyses just mentioned.

Whether making the BDB six months later would have improved the operation of the Peace Corps we do not know. The BDB itself would presumably have been much better because the American Institute for Research *method of rationales* could have been fully employed, assuring construction of items which had a clear relation to specific job requirements of the Peace Corps. In addition, more information about job requirements would have been available with increased Peace Corps experience. But it may be that the BDB served a useful function by showing applicants that the Corps wanted to know a good deal about their accomplishments to date, thus rendering face validity to the selection program whether or not statistical validity could be assured.

Some other less dramatic examples of hurried research activity exist. For example, Comstock and Maccoby (1966, Introductory report, pp. 9-10) tell how a series of tests could not be ready until the weekend before testing had to occur and could not be delivered to a certain Colombian region because the Colombian Army closed all roads for that weekend to decrease terrorist activity during a national election. Comstock and Maccoby had other problems as well -- during one test a teacher appointed several students to sell doughnuts to the others!

A further operational problem arises from rapid turnover of research division personnel. At times the Research Division or comparable division of the Peace Corps has been without a director. In addition, the identity of the director or person with equivalent responsibility has shifted rapidly. In the six years from 1966 to 1972 approximately half a dozen people filled this role.

While we know that the Peace Corps has been opposed to entrenchment of bureaucratic personnel, the recent average tenure of about one year prevents any continuity of programming except as produced by tradition, law, or top level administrators in the Peace Corps. Because of the large amount of contracted research, research on the Peace Corps is not as chaotic as might be expected with such rapid personnel changes. Yet it is anomalous to have research workers on such contracts possessing much more extensive experience with Peace Corps research than the responsible personnel in Washington. This leads us to a further recommendation:

Recommendation 4. ACTION or the Peace Corps should establish a staffing plan which will ensure at least a 2-year stay for the person assigned to administer contract research or direct in-house research.

Is the Peace Corps Achieving Its Goals?

Goal No. 1: Helping Other Countries Meet Their Needs for Trained Manpower

This first goal has two aspects, (1) loaning trained personnel and (2) training indigenous personnel. In terms of short-range plans, it is important to lend personnel to other countries in order to accomplish certain tasks. Such loans, when concluded, may leave the country with new institutions, such as cooperatives, or new structures, such as hospitals. They do not appreciably increase the amount of trained manpower indigenous to the country, so the departure of Peace Corps personnel would leave the country in approximately the same condition of manpower development as if the Peace Corps had never come. To the extent that host countries are asking for technicians, not teachers, and to the extent that Peace Corps administrators' recent policy of encouraging the recruitment of technical personnel yields a non-teaching corps, the Peace Corps serves a stopgap function in terms of trained manpower. This is not to say that trained manpower is not also developed by contact with qualified personnel in non-teaching positions; we simply expect less development of this kind. The meteorologist Volunteer who established an early warning system for hurricanes in British Honduras probably raised some personnel to technician level in his specialty; he may have done less for the long-term personnel needs of the country than if he had taught meteorology in a Honduran college, possibly using a project method to produce practical as well as theoretical skills.

Special attention needs to be given to community development personnel as we consider this first goal. Conventional manpower studies might not even state a need for community development workers in certain countries. Yet we have seen evidence that some Latin American countries have established regional development projects independently of the Peace Corps, thus indicating those countries' desire for such personnel. Thus community development workers may be viewed as a short-term contribution by the Peace Corps. Are they also serving a teaching function? One would infer from the research literature that little increase in educational level or work skills results directly from community development activity. An occasional credit union official improves his accounting ability through association with a Volunteer, but little else occurs which could be called manpower development in a traditional sense. The Peace Corps no doubt has hoped that skills in organizing the poor or the disenfranchised have been increased, or that the skills of the poor and disenfranchised to organize themselves have been increased.

To what extent has this hope been realized? The research evidence is sparse and indirect. Morale of community development personnel has been low and attrition has been high. We know that, beginning in 1970, there was a sharp decline in percentage of Volunteers assigned to community development, presumably reflecting dissatisfaction with previous C.D. projects on the part of host countries and the Peace Corps administration. Thus, Brent Ashabranner (1971, pp. 153-173), formerly Deputy Director of the Peace Corps from 1967 to 1969, has been extremely critical of community development projects in which work assignments were so unstructured that clear goals could not be set and attained. We note, however, from the text associated with Fig. 6-1, that a new category akin to community development, urban development and public works, grew by 1973 to almost the level (12.7% rather than 14% of Volunteers) community development had in 1969.

Difficulties in making an overall assessment of accomplishment in community development or any other work area leads us to make the following recommendation:

Recommendation 5. ACTION or Peace Corps policy-makers, in conjunction with research specialists, should state national, regional, and worldwide aims for each major category of programs such as health projects, as well as specific aims for individual projects. These aims should be recognizable as steps in the furtherance of the three fundamental goals of the Corps. Statements of priorities for the different aims should be made and should reflect Peace Corps judgment of the relative priorities of the fundamental goals. Data gathering procedures should be developed to permit program evaluation consistent with the specification of aims just recommended. The Peace Corps' development of an evaluation system for assessing its strengths and weaknesses and measuring progress in achieving its goals, implemented in 1973-74 (ACTION, 1973a, p.7), as well as its completion of a 2-volume survey of Peace Corps accomplishments since its inception (Committee on Foreign Affairs, 1974, p. 5), may be satisfying the intent of Recommendation 5. Also the National Academy of Sciences study of the Peace Corps' future role, commissioned in 1974 (Committee on Foreign Affairs, 1974, p. 6) should contribute to this goal.

Implementation of this recommendation would help to allay the American Technical Assistance Corporation's (1968) concern about the shortage of effectiveness information on programs. It is our conviction, however, that some separation between evaluation and research is desirable -- justifying administrative gathering of effectiveness information for short-term decision-making and research-gathering of closely raltaed information for answering morr far-reaching questions of policy. We emphasize that we do not advocate a monolithic research organization for the Peace Corps. The Research Division is fortunate to have had many prominent and talented research investigators for its projects - more talent than it probably could have recruited or financially supported within the Peace Corps Washington office. The diversity of approach brought by the different investigators has, on the whole, been useful. The advantages of different perspectives from different scholars could be matched with comprehensiveness if one excellent research worker could be induced to head a world-wide study or a series or regional studies of community development while similar investigations by first-rate scholars were conducted for agricultural projects, teaching, health projects, and residual programs.

Such a series of investigations could emphasize the goals and accomplishments of the Peace Corps, giving only minimal consideration to selection and training of Volunteers, since these topics have been almost fully explored from a psychological view already. As indicated in

Recommendation 2, it would be appropriate to encourage research by economists or other investigators accustomed to examination of molar issues rather than molecular ones. For example, unless the decline in community development projects is expected to be so great as to completely abolish them, someone needs to investigate how many community development workers are needed in a country like Peru, how much training is required to make a Peace Corps Volunteer able to function effectively as a community development worker, and whether labor organizers or other action specialists could help to organize a more effective community development program than is presently being operated by the Peace Corps. One cannot help wondering if the Peace Corps has relied too heavily on individual contact between PCVs and host country people instead of training a cadre of highly skilled Volunteers or host country nationals either to do conventional social service work or perhaps to emulate the late Saul Alinsky in developing community organizations which can press for increased opportunities for community members.

It seems to us that having a standard summer period of training may be appropriate for some Peace Corps specialties but not for others. In particular, inexperienced community developers or agricultural Volunteers could probably benefit from a full year of training, including a great deal of practicum work. Loss of a period of overseas service in order to permit extensive training would probably be compensated for by increased overseas effectiveness and fewer reported cases of Volunteers who do little work for considerable periods of time. See Cowan (1970, pp. 235-243 and pp. 302-305) for illustrative anecdotal reports. To the extent that a long period of acquaintance with people in a community is necessary before work becomes effective, it may be important for in-country training to take place at the site of future work assignment or for some specialties to require three year terms of duty.

Our discussion of short-term loans of personnel has come close to saying that no short-term loan is advisable unless it leads to training of host country nationals. Such a strong conclusion would probably be unwise, for we think that development of the country as a whole rather than mere development of human capital is the major reason for sending skilled personnel abroad. But teaching is clearly an important means of satisfying the first statutory goal of the Peace Corps. To what extent has this teaching been successful? We have seen evidence that a very high proportion of teachers in Ethiopia were Volunteers at some stage of the country's development, that the percentage of Ethiopian students who were successful in school may have been increased by exposure to Peace Corps teachers, and (on the other hand) that Filipino teachers were not markedly affected in English usage by contact with Peace Corps teacher aides. What are the long-range effects of these events?

Foster (1964) has shown that increasing the number of high school graduates in a country does not necessarily help its overall manpower problem. Unless a market exists for the skills learned in school, even in law school, a young person may not find employment he considers suitable. In this case school may appear to have harmed him, making him unwilling to seek blue collar employment or making him dissatisfied in his blue-collar job but unable to find a white collar position. For this reason increased educational opportunity in a country needs to be accompanied by a development plan specifying the kinds of personnel which will be needed from year to year and the degree to which following existing educational plans will provide such personnel or at least make qualified personnel available for on-the-job-training.

It seems to us that trained manpower should be interpreted rather broadly. Though it would be unfair to ignore questions of job availability for students being trained as radio repairmen, for example, it also seems reasonable for the Peace Corps to train young men and women to satisfy personal aims ranging from maintenance of their health to establishment of happy homes and enjoyment of cultural opportunities. To the extent that American educational practices serve to facilitate reaching these end products, the Peace Corps should feel justified in providing teachers for courses with limited vocational relevance. But it must be recognized that host nationals may be meeting certain personal goals better without American methods. They may have incommensurate values which would make it an imposition to suggest that American teaching methods or curricula would be of assistance to them at certain points.

Goal No. 2: Promoting a Better Understanding of the American People on the Part of the People Served

Once again we know too little about the degree to which a formal goal of the Peace Corps is being met. There is some information about the way Peace Corps Volunteers are perceived compared with other PCVs (Lynch et al., 1966; Guthrie & Zektick, 1967), in general (Stein, 1966), or compared to local citizens (Stefflre & Wendell, 1967). Our earlier discussion of these studies made it plain that both favorable and unfavorable characteristics have been attributed to Volunteers. While there have no doubt been errors in perception, one could argue a priori that any host national who has known a Volunteer well enough to be willing to rate him has a better understanding of at least one American person than if the Peace Corps had not been in operation in his community. He certainly has more accurate information than that conveyed by motion pictures, for example.

Political or governmental statements of goals are often expressed in vague terms so that they will be acceptable to a larger number of people. A corresponding disadvantage of this procedure is that one cannot restrict the meaning of a given statement and evaluate its implications scientifically without risking loss of an important implication of the original statement. We have been discussing the effect of the Peace Corps upon rank and file citizens of host countries, but a book sharply critical of the Peace Corps (Windmiller, 1970) helps us to realize that the U.S. Government or Congress may also include within Goal Number 2 the specialized goal of promoting a better understanding of the American people by host government officials or the potential leadership group of a host country. One could also ask whether this first goal is not interpreted by some Americans to mean building of good will toward the U.S. Government rather than the American people.

Two things seem to be needed to improve our assessment of the degree to which the second Peace Corps goal is met: (1) More information is needed to indicate how many people in a given country know at least one Volunteer, what they know about him, and how they evaluate him and empathize with him;

(2) Information is needed to indicate how much the residents of a country increase their understanding of Americans by knowing Peace Corps Volunteers and, in some cases, by being taught by them. This brings us to a sixth recommendation for future Peace Corps research:

Recommendation 6. ACTION or its Peace Corps division should commission studies, in at least a few countries, for the sole purpose of learning the degree of understanding by representative host nationals (and possibly by leadership group members as well) of Peace Corps Volunteers in particular and the American people in general. Rather than conducting these studies in haphazardly selected communities, the sampling procedures of national survey organizations (such as the Survey Research Center of the University of Michigan or Louis Harris and Associates) should be employed. It would be desirable for such studies to be planned and performed by host national survey organizations where available. It is essential that surveys planned and conducted by American firms use host national interviewers and seek extensive advice from citizens of the host country during all stages of the study.

Goal No. 3: Promoting a Better Understanding of Other Peoples on the Part of the American People

The information for this third statutory goal of the Peace Corps is even more sparse than for the first two goals. Most of the relevant evidence comes from Close-of-Service Questionnaires, which portray the returning Volunteer's perception of host country nationals (HCNs) as work associates or sources of social stimulation. This information seems too narrow in perspective, giving a limited picture of the typical Volunteer's understanding of the people and culture of the host country. Rather, the questions asked seem to focus primarily on the degree to which local people or work counterparts from the host country were perceived as facilitating or hampering day-to-day goals of the Volunteer. One suspects that Peace Corps investigators became so personally concerned with individual Peace Corps programs that they forgot to question whether the larger goal was being met.

In addition to information already available, one could gain knowledge of Volunteers' perceptions of host country associates if R. Jones' (1969c) data from his Overseas Volunteer Questionnaire (OVQ) were reported with means for individual items or clusters of items. The OVQ contains several items such as, "HCNs at my site have progressive local leadership," or "My work relationships with HCNs are hampered by my need for a better understanding of local conditions." However, additional questions about Volunteers' understanding of their host country and its residents seem to be needed. Furthermore, it seems vital to ask how the understanding of the American people as a whole is being affected by Peace Corps Volunteers or by contacts with foreign nationals due to Peace Corps activity. This suggests two further recommendations:

Recommendation 7. The Peace Corps should consider using a Close-of-Service Questionnaire for some returning Volunteers with some questions designed to assess more fully the degree to which Peace Corps experience has furthered the PCV's understanding and good will toward the people of the country to which he was assigned. It would also be particularly useful to administer the same subsection of the questionnaire during initial training for Peace Corps service for the purpose of determining how knowledge, perception, liking, and understanding of host nationals changes with Peace Corps experience.

Recommendation 8. The impact of the Peace Corps upon the American public should be assessed in two ways: (a) by survey sample means intended to show how much exposure individual Americans are having to information about people in countries served by the Peace Corps and how much the Peace Corps is influencing the understanding of these countries' people and (b) by surveying returned Volunteers to determine the amount of information they are disseminating on this subject and by what means.

Possible Non-Statutory Goals

Most Peace Corps aims can be rationalized as subsidiary to the three statutory goals. However, it seems appropriate to emphasize two quite disparate goals in addition to those explicitly stated in the Peace Corps Act. The provision of trained manpower seems subsidiary to the goal of aiding the economic and cultural development of host countries, hopefully without detracting from existing strengths in those countries. Therefore the statutory goal of providing trained manpower is partly a restriction upon the means of aiding development. Recommendation 10 somewhat later in this chapter is aimed at assessing progress toward this more fundamental goal.

A second goal, the establishment of close relations between Volunteers and host country nationals, receives a great deal of attention in the writings of Peace Corps staff and Volunteers. Fuchs (1967, Chapter 6) has been particularly eloquent in his description of this process as it occurred among Peace Corps teachers in the Philippines. Statutory Goals 2 and 3, helping promote better understanding of other people by Americans and vice versa, taken together, approximate this goal of Volunteers and host nationals developing mutual understanding and affection. Note, however, that the latter goal can be achieved by influencing a relatively small number of Volunteers and host country nationals whereas full attainment of Statutory Goals 2 and 3 would require a change in a significant proportion of the populations of the countries involved. It seems more realistic to expect attainment of the more restricted goal. But there is a question as to whether that goal, however laudable, is in itself sufficient to merit continuation of the Peace Corps. Very possibly the cultural exchange may be the most useful part of the Peace Corps experience of many Volunteers; it may be equally important for many persons with whom Volunteers have contact. Perhaps this is a sufficient goal for the Peace Corps, but it could be argued that such a conclusion would make the Peace Corps more the servant of its Volunteers than a mechanism for significant service to others. It seems to us essential that cultural exchange be supplemented by provision of skilled manpower adequate to aid in host countries' development. For this reason the current trend toward recruiting more specialized personnel as Volunteers seems very worthwhile.

Should Research Question the Basic Premises of the Peace Corps?

Windmiller has devoted a book to the proposition that, despite his earlier hopes to the contrary, the essential role of the Peace Corps has become a "kind of public relations work in behalf of American power and influence in the developing world." (Windmiller, 1970, p. vi). He draws an analogy between its function and that of the community relations divisions of many police departments, which "try to ease tensions and prevent outbreaks that might require the use of force." Windmiller recognizes that the commitment of Volunteers to American foreign policy is less than that of a community relations officer to the police force. It is well known, of course, that many Volunteers have opposed American foreign policy decisions regarding Vietnam, the Dominican Republic, and other crisis spots of the past decade. Presumably, a large proportion of Volunteers would react negatively to any request that they purposely engage in efforts to expand American power and influence in the developing world. But even a choice to develop a football, basketball, or baseball league in a foreign community can be viewed as a step toward the Americanization of the country, with an American sporting goods company being likely to follow the Volunteer as he moves to the hinterland, just as American businessmen are reputed to have followed American missionaries into foreign countries a century ago. Windmiller (1970, p. 82) cites one instance in which a PCV couple were central figures in bartering for the freedom of a jailed and disillusioned Communist in exchange for information leading to the discovery of arms caches and of a Communist plot to take over Ecuador.

Windmiller places special emphasis on his claim that the Peace Corps has performed a colonial or semi-colonial function in Micronesia, Liberia, and possibly more independent countries such as Ethiopia. Micronesia is not a nation but a collection of trust territories administered by the United States subject to supervision of the United Nations. Windmiller documents the assertion that these territories exhibited great poverty and suffered from abysmal educational arrangements and minimal health care. The latter problem was compounded by nuclear fallout on the island of Rongelap as a consequence of nuclear testing at Bikini. He contends that there is a real question whether the introduction of massive numbers of Volunteers (one to every 300 Micronesians in 1968) is more than a weak substitute for the professional personnel the United States should provide one of its territories. Windmiller indicates that PCVs may simply be teaching Micronesia residents to assimilate American standards rather than how to build their own nation. He views Liberia, a country in which the only legal tender is U.S. currency and the government bank (the Bank of Monrovia) is a subsidiary of the First National City Bank of New York (Windmiller, 1970, pp. 109-110), as almost as completely subject to American control as Micronesia, rendering it less capable of profiting from Peace Corps assistance than if Liberian leaders were able to state goals more distinct from those of the American entrepreneurs so deeply involved in their country.

The present book is not an appropriate place to make a judgment on political or policy issues such as Windmiller raises. Without a sharp change in U.S. foreign policy or a change in Peace Corps practice, such that the principal impact of service overseas is to radicalize the Volunteer and send him home to educate Americans about international problems of poverty, Windmiller will not be pleased that the Peace Corp

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exists at all. The reader must come to grips with this conclusion in his own way. It is our conviction, however, that the Peace Corps, like other organizations, can profit more from criticism than from reflexive approval. Therefore, we welcome Windmiller's book as a stimulus to serious reflection on the nature of the Peace Corps. Some of Windmiller's claims seem to merit extended research, if for no other reason than that they may lead to a balanced view of the Corps. We suggest that some research related to Windmiller's book can be done properly by the Peace Corps itself but that some should be performed under independent auspices.

We note that Windmiller's emphasis on the public relations function of the Peace Corps is related to the second and third statutory goals of the Corps. Windmiller sees more national self-interest in the promotion of mutual understanding between Americans and citizens of other countries than some U.S. officials have admitted. Windmiller does quote occasional statements by U.S. government leaders who recognize this element of self interest. It seems appropriate to urge that a study be conducted to indicate the degree of assistance to U.S. business and U.S. foreign policy which has resulted from Peace Corps activity. This leads to our next recommendation:

Recommendation 9. An agency other than the Peace Corps, possibly a private foundation, should sponsor research intended to evaluate the degree to which the Peace Corps has served U.S. interests, both political and economic.

In making this recommendation, we do not intend to imply that something which serves U.S. interests cannot also serve the interests of the host country. However, finding out how much the U.S. benefits from the existence of the Peace Corps seems useful and necessary. The benefits derived could range from increased overseas markets to prevention of revolutions not approved by the U. S. government, to increased vocational opportunities for returned PCVs. The reason for urging that such an investigation not be conducted by the Peace Corps Research Division should be obvious: conflict of interest could be a real problem since there would be a temptation to look, on the one hand, for evidence confirming the public image of the Peace Corps as an altruistic organization and, on the other hand, to show Congress that its appropriations were bringing a return to the United States.

It also seems advisable to urge that studies be conducted from the point of view of the host countries so that those countries may assess the extent to which Peace Corps or similar organizations do serve their national interests. We have seen one published study on the Peace Corps done in East Pakistan with minimal aid from U.S. personnel (Majeed Khan, 1964); the Peace Corps reports it also has received evaluations made of the Peace Corps in Ecuador and Korea by host nationals (Committee on Appropriations, Senate, 1972, p. 94). More are needed. This brings us to our final recommendation:

Recommendation 10. Research should be commissioned by the United Nations Educational, Scientific, and Cultural Organization or a similar regional or national body, and by host countries, for the purpose of assessing both the gains and losses which have accrued in host countries as a consequence of Peace Corps (or similar organizations from other countries) activity in those countries.

Final Look at the Criterion Problem

Throughout most of this book we have been concerned with technical issues, to the exclusion of value statements and summary evaluations of specific programs or the Peace Corps as a whole. These latter concerns have received some attention in the preceding part of this chapter; we think it appropriate to close the book with a final set of remarks intended to interrelate technique and value considerations.

In a brief oral assessment of Peace Corps research, Ryans (1969) was critical of the way the Peace Corps had attempted to set criteria of good performance by an individual Volunteer and of positive accomplishments in an overall project: "It appears to me that the approach to the designation of criteria, or criterion behaviors, in most of the Peace Corps studies has not been well-planned, controlled, and subjected to analysis and refinement. And the approaches to assessment of the criterion behaviors have generally been familiar, but often unsophisticated, rating techniques -- ratings prior to and during training and ratings of overseas performance." Ryans went on to recommend five steps in an evaluation program previously advocated (Ryans, 1967) for teacher competency evaluation and prediction. The description of those five steps is paraphrased below:

1. Selection of a value system or criterion framework. (Ryans recommended that values held by "residents of the host community, overseas administrators, peers, and other groups" be investigated by the critical incident technique frequently discussed in this book.)

2. Identification of classes of circumstances in which Volunteer behaviors agreed upon as desired may occur, be observed, and assessed.

3. Precise (operational) description of the desired behaviors.

4. Identification of properties of Volunteers' behavior which may be related to the criterion behaviors of Step #3.

5. Research intended to determine the empirical relationship between selection or training data of Step #4 and criterion data of Step #3.

Excessive use of rating scales by the Peace Corps may have prevented optimal performance of Steps 2, 3, and 4, particularly Steps 2 and 3. Attention to value questions has been minimal, making Step 1 poorly carried out. Step 5 seems to have been accomplished best.

We turn now to the question of the relation between value systems and evaluation of the Peace Corps. With the discussion of Windmiller's criticism of the Peace Corps, which is relatively mild compared to anti-Peace Corps propaganda films (such as Blood of the Condor) or pamphlets (Miller, 1962) or statements of the Committee of Returned Volunteers, largely but not completely composed of returned PCVs (Windmiller, 1970, pp. 128-130), it becomes apparent that judgment of the Peace Corps, either by Americans or others, is dependent upon the frame of reference of the evaluator as well as upon the information available to that evaluator. In any field related to international relations, the relativity of judgment should be recognized as a truism, but we have often permitted ourselves to ignore the problem in earlier pages. Yet a basic presupposition of Peace Corp training can help us cope with this matter:

Trainees are frequently warned to make themselves sensitive to the host culture, to avoid culture shock by recognizing that they are guests in an environment with different values and traditions than their own, and to avoid trying to impose their own way of life upon their hosts. Yet there is a basic dilemma involved here because what they are told to do may be impossible and because it may be inherent in Peace Corps activity that modernization and even Americanization of host countries will be the result.

Forman (1972), who goes somewhat further than Ryans in emphasizing the determination of values around which to focus Peace Corps work, has suggested the possibility of considering the viewpoints of four groups in defining Peace Corps goals and assigning priorities to those goals. The four groups are the Peace Corps administrative staff, Peace Corps Volunteers, the government officials of a host country, and the citizens of the host country. Ignoring the oversimplification involved in stereotyping goals within each group, we can guess what priority system each group assigns to any set of goals for the Peace Corps. Table 8-1 presents an arbitrary set of average weightings which might be reported by the four reference populations, if members of those populations could frankly convey how important each of the three Peace Corps statutory goals is to them. The specific entries in Table 8-1 cannot be taken very seriously, but the present author does hypothesize that host country personnel would judge the goal of providing trained manpower to be somewhat more important than did American personnel in years past, a hypothesis made explicit in the first column of weights in that table.

Insert Table 8-1 about here

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Table 8-1

Possible Weightings of the Three Peace Corps Statutory Goals by Four Reference Populations

(Table entries are to be viewed as illustrative, not as values judged to be true.)

Reference Population	Helping Other Countries Meet Trained Manpower Needs	Helping Promote a Better Understanding of the American People by Host Nationals	Helping Promote a Better Understanding of Host Nationals by the American People	Weighted Value of Accomplishments as Viewed By Each Population
PC Administrators	4	4	2	130
PC Volunteers	5	3	2	120
Host Country Government Officials	7	1	2	100
Host Country Nationals	8	1	1	105
Hypothesized Accomplishment in Regard to Each Goal	10	20	5	---

Evaluation of the Peace Corps seems necessarily to be multi-valued, then, with relevant evaluations being desirable for each of the four reference groups of Table 8-1. Once a set of goals (possibly a more inclusive set or more objectively defined set than the statutory goals) has been weighted by random samples from the reference populations (or weightings established by official decree or some other means), a single empirical study could be performed to see the overall value of the Peace Corps or of a certain Peace Corps project to each of the reference groups. The bottom row of Table 8-1 gives arbitrary hypothesized accomplishments with respect to each goal, and the last column of that table gives resultant overall accomplishments as weighted for each reference population. These resultants for a given row were obtained by multiplying each column entry by the bottom entry in that column and then summing these products. Thus, for PC administrators we have (4 times 10) plus (4 times 20) plus (2 times 5), or a total of 130. Note that if the entries in Table 8-1 had been obtained empirically, we would conclude that the value of the Peace Corps was greatest in the eyes of Peace Corps administrators (130) and least in the eyes of host country government officials (100). Members of any of the four reference populations who knew these final column results and found them satisfactory or unsatisfactory could take appropriate action either to maintain or modify Peace Corps activities yielding those results.

Table 8-1 is simply an illustration of an overall philosophy from which Recommendations 8 and 9 have sprung. Of all entities, the world must be viewed as one of the most pluralistic. Therefore, the Peace Corps needs to remind itself as well as its Trainees that the value of the

Peace Corps may differ sharply, depending upon the weightings attached to different possible goals or outcomes. There is presumably a great deal of goodwill for the Peace Corps in the 79 countries and trust territories where it has served, with new countries being added to the list almost every year, raising the number of countries involved far above the 10 of 1961. Yet the Peace Corps had left 15 countries by 1974 (Committee on Appropriations, House, 1974, pp. 483-488; ACTION, 1973a, p. 12), usually at the request of the host country. Two countries (Ceylon, now called Sri Lanka, and Guinea) have bid the Peace Corps, "Goodby" twice; but four (Bolivia, Gabon, Mauritania, and Nigeria) withdrew once and were active users of Peace Corps Volunteers again at last report (Committee on Foreign Affairs, 1974, pp. 47-48). (The foregoing counts assume there were 68 Peace Corps countries in FY 1974, as stated twice in the full report of the Committee on Foreign Affairs just cited; however, the listing of specific Peace Corps countries there includes only 64 names.) But the relatively large number of requested withdrawals and evidence of a decline in the annual number of Volunteers requested (only 6,500 in FY 1973, Committee on Foreign Affairs, 1974, p. 33; compared to 12,313 Volunteers reported in service in 1966 according to our Figure 6-1) suggest that the early version of the Peace Corps was not wholly satisfactory to host countries. Also some of the demand for Peace Corps Volunteers has been drained off by other services. Over 20 countries now have international volunteer programs, with approximately 28,000 volunteers in service (including U. S. Volunteers) (Committee on Appropriations, House, 1973, p. 490), with the United Nations itself sponsoring 135 Volunteers, of whom 17 are from the U. S. (ACTION, 1973c, p. 25).

In view of the above, we suggest that sometimes (perhaps more in the 1960s than in the 1970s) Peace Corps practices, idealistic though they often are, have reflected different goals than host countries wold have set. Host countries tried to use a shopping list system of requesting Volunteers -- 1 irrigation specialists, 3 mathematics teachers, 1 agricultural extension worker experienced in raising chickens, etc. But the Peace Corps early rejected this approach partly because specialists were in short supply, and some Peace Corps administrators wanted to build a giant operation. (Warren Wiggins, who was Deputy Director of the Peace Corps from 1964 to 1967, wrote a very influential position paper at the beginning of the Peace Corps, recommending that the Corps begin with a large program, possibly focusing on one host country until 5,000 Volunteers were assigned there and then expanding into other countries until perhaps 100,000 Volunteers were on duty). Instead Volunteers were assigned in relatively large packages of similarly trained personnel such as teachers or community development workers (Ashabranner, 1971, pp. 23-30 and 190-192).

This assignment procedure was convenient to Peace Corps administrators because training could be standardized and large numbers of college graduates were available to serve. It was also convenient to the many recent college graduates who wanted an activity of this sort. It appears, however, that there has been a welcome trend back to the "shopping list" philosophy. In 1971 Peace Corps Director Joseph H. Blatchford reported (Committee on Appropriations, U. S. Senate, 1971, p. 262) that the Peace Corps had Volunteers with 312 different skills and sometimes placed Volunteers with 30 or 40 different skills in the same country. In addition, he said that 161 Volunteers with special skills were being sent aboard as individual placements. In Chapter 6 we saw other evidence of favorable effects of Blatchford's and Balzano's emphasis upon recruitment of highly skilled workers. We believe there has been a noticeable upgrading of skills in the Peace Corps, but we think it is very easy to overestimate the magnitude of that upgrading. We would guess that a very high proportion of present Volunteers could be matched for age, sex, marital status, and vocational capacities with Volunteers from the 1960s.

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It seems to us that, to the degree to which host countries' interests are being intentionally served, those countries can have even greater choices offered in terms of the types of Volunteer personnel sent to them. If the Peace Corps could remove or eliminate certain constraints under which it chooses to operate, it could establish differential monetary incentives for different classes of Volunteers, thus making it possible to recruit more machinists, for example.

In light of the different monetary incentives and other factors, it might be realistic to offer a country 50 English teachers or 30 community development workers (who would have required a longer period of Peace Corps training) or 10 machinists who either would have to have received even longer Peace Corps training or, being recruited from union ranks, would have to have received special inducements to volunteer since the current numbers of such Volunteers is so small. If host countries regularly chose fewer but more specialized personnel, this would inevitably lead to a smaller Peace Corps. But it seems reasonable to conclude that Statutory Goal No. 1 would be better fulfilled and that the host countries' own priority systems would have been more nearly met if the type of Volunteers sent them were more open to choice.

Conclusion

Hopefully, the foregoing pages have illustrated the author's high regard for the Peace Corps and for much of the research it has produced. In closing, let me express the hope that this book may further the goals toward which so many researchers cited herein have worked: to indicate what the Peace Corps is doing, what a variety of people think about it, and how it may become even more satisfactory to at least some of its reference groups. It is my impression that the bulk of the evidence reported in this book supports or is at least consistent with recent trends in Peace Corps practice, notably Joseph Blatchford's (1970, pp. 126-130) five new directions for the Peace Corps: (1) " . . . to shift more Volunteer assignments to the high priority needs of developing countries." (2) " . . . to recruit the Volunteers with the skills which meet these higher priority requests." (3) " . . . to help make the Peace Corps a cooperative venture (for example, by filling 50% of Peace Corps overseas staff positions with local citizens and by making the selection, operation, and evaluation of projects a joint responsibility). (4) "Encouraging volunteer service by international and multinational teams." (5) Better utilizing the skills and service motivation of returned Volunteers. May these directions be fruitful ones; and may added experience, changing times, and new research lead to equally promising policy changes for the Peace Corps a decade from now.

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(* means that the item does not mention the Peace Corps.)

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Footnotes

Chapter 2

[1] A Volunteer Leader is a Volunteer who is given supervisory authority over some other Volunteer. Not all clusters of Volunteers have Volunteer Leaders, but the well-known Vicos project in Peru, for example, had two such leaders. See Dobyns, Doughty, and Holmberg, 1966, p. 65.

[2] Following the example of Cleveland, Mangone, and Adams (1960), we use *overseas* to mean Latin American as well as across the ocean. This imprecision saves many words, hopefully causing no confusion to the reader of this footnote.

[3] Personal communication from J. G. Harris, Jr., Nov. 27, 1972.

[4] Unless otherwise stated, "correlation coefficient" or "*r*" will refer to the Pearson correlation coefficient.

Chapter 3

[1] The minimum number of applications proved to be 19, 022 in 1970 with the three next years yielding 26,483, 23,849, and 33,637 applications, in order, still far below the 42,125 to 45,653 peak occurring in 1964, 1965, and 1966 (ACTION,1973a p. 5).

[2] The responses for this group of 244 were presented for 2 subgroups: 191 who accepted invitations to train and 53 who declined. Since the acceptance and decline rates were running about 50-50, the percentages reported for each group on any response were given equal weight. Thus, the two were averaged by us in order to obtain the percentage response for the total group of 244 applicants.

Chapter 4

[1] Because they are frequently available in the studies cited, we will report shrunken *R*s (Guilford, 1956, p. 399, Ezekiel & Fox, 1959, pp. 300-302) intended to compensate for the fact that the number of predictor variables

(p) plus the predicted variable ($p + 1 = m$) in some studies approximates the number of persons studied (N) and thus inflates the multiple correlation. Olkin and Pratt's (1958, pp. 201-211) unique minimum variance unbiased estimator of the squared multiple correlation coefficient could be used to obtain an even better estimate of R. However, the two corrections are not far different:

$$R^2_{\text{shrunken}} = 1 - (1-R^2)\left(\frac{N-1}{N-p-1}\right)$$

$$R^2_{\text{unbiased}} = 1 - (1-R^2)\left(\frac{N-2}{N-p}\right)\left\{1 + \frac{2(1-R^2)}{N-p+2} + \frac{8(1-R^2)^2}{(N-p+2)(N-p+4)} + \frac{48(1-R^2)^3}{(N-p+2)(N-p+4)(N-p+6)} + O(N^{-4})\right\}$$

where $O(N^{-4})$ is a very small remainder even when compared to the very small N^{-4}. (The particular form of R^2_{unbiased} presented here was kindly provided in a personal communication by Professor Olkin.) Note that if the material inside the braces of the latter equation were omitted, the two estimators would differ only by having each term in the ratio $\frac{N-1}{N-p-1}$ reduced by one in moving from the shrunken R^2 to the unbiased R^2. Stein's shrunken R of .54 compares to an R of .56 based on the unbiased R^2 formula when the $O(N^{-4})$ term is neglected. The magnitude of the discrepancy in any other case of interest to the reader may be computed using the formulas above.

[2] Personal communication from Dr. William Myers, November 30, 1968.

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Chapter 6

[1] The reader should beware of one aspect of the factor analysis data just discussed. Though Comstock and Maccoby (1966, Research Report 9, p. 160) define their $\underline{H}^2$ values as the "total amount of item variance explained by all extracted factors for each variable," this definition is inaccurate since they reported an $\underline{H}^2$ value of 110 (110%) for Item 42 two pages later. Correspondence with Maccoby (1970) indicates that they computed $\underline{H}^2$ values by summing all squared factor loadings for a given item. Since they used a principal axis factor analysis with varimax rotation, the authors obtained no $\underline{H}^2$ value greater than 100 with a varimax method using orthogonal factors. They used oblique (nonorthogonal) factors, making $\underline{H}^2$ no longer properly computed from final factor loadings. Rather it should have been computed by summing all squared factor loadings for a given item, using loadings obtained prior to rotation. Principal axis factor analysis and orthogonal and nonorthogonal varimax rotations are discussed in Harman (1967). Note that the problem of interpreting $\underline{H}^2$ values does not invalidate the obtained factor loadings nor the change score analyses based on raw item scores.

Chapter 8

[1] These goals are 1. " . . . to help the peoples of such [interested] countries and areas in meeting their needs for trained manpower, and 2. to help promote a better understanding of the American people on the part of the peoples served, and 3. a better understanding of other peoples on the part of the American people." Quoted in this form by McLaughlin (1966) from Peace Corps Act; Public Law 97-293, Title I, Sec. 2. McLaughlin also

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mentions a fourth goal added by Congress in 1963 -- to encourage foreign countries to establish similar domestic and international voluntary service programs of their own. As noted in Chapter 3, this fourth goal has been accomplished by separate actions of 24 countries such as in the founding of Great Britain's Volunteer Service Overseas and more recently by the establishment of the United Nations Volunteer (UNV) program.

[2] Our skepticism about using cost-benefits analysis to solve Peace Corps problems is much allayed by a recent report (Peace Corps, Office of the Director, 1971) that such analyses led to the current Peace Corps emphasis upon recruiting Volunteers with specialized skills. The conclusion of these analyses seems eminently reasonable.